UNITED STATES
NUCLEAR REGULATORY COMMISSION

MEETING ON TRANSFORMATION AT NRC:
MID-YEAR REVIEW

TUESDAY,
JUNE 22, 2021

The Commission met via Video Teleconference, at 9:00 a.m. EDT, Christopher T. Hanson, Chairman, presiding.

COMMISSION MEMBERS:

CHRISTOPHER T. HANSON, Chairman

JEFF BARAN, Commissioner

ANNIE CAPUTO, Commissioner

DAVID A. WRIGHT, Commissioner

ALSO PRESENT:

ANNETTE VIETTI-COOK, Secretary of the Commission

MARIAN ZOBLER, General Counsel
NRC STAFF:

MARGARET DOANE, Executive Director for Operations

NICHOLAS BUGGS, OCIO

JUNE CAI, ADM

ERIN CARFANG, Region I

CANDACE de MESSIERES, NRR

STEPHANIE MORROW, RES

TAMMIE WILLIAMS, NRR
CHAIRMAN HANSON: Good morning, everyone. I convene the Commission's public meeting on NRC transformation. This is the mid-year review. Our last meeting on the subject was in September of 2020.

We will hear today from two panels. First we'll hear from the NRC staff, and following that, after a short break, we'll hear from participants in our external panel. With each panel, we'll hold questions until the end, and then we'll hear questions from the Commissioners.

Before I start, I'll ask if my colleagues have any remarks to make. No? Okay, so with that, we'll begin with the NRC staff panel. We'll begin with our Executive Director of Operations, Margie Doane.

MS. DOANE: Good morning, Chairman and Commissioners. We look forward to providing you an update on the NRC's transformation to become a modern, risk-informed regulator. As you will hear today, we continue to make progress in all transformation focus areas.

Our mission to protect public health and safety, security, and the environment has not changed. What is changing is how we go about meeting this mission. Transformation is a whole Agency endeavor, and though today we have success stories showing change across the Agency in technical, corporate, policy, and legal programs, we know that there is more to be done as this a journey, not a one-time event.

For background, I'll briefly discuss the highlights of our
transformation journey and how we got here. Although I'm sure that this is
sounding familiar, it will be helpful to set the stage for today's briefing.

As we discussed in our last meeting in September 2020, the
NRC built upon its 2019 futures assessment to develop the dynamic futures
for NRC mission areas report, which describes four hypothetical future
scenarios in which the NRC might operate in the year 2030 and beyond.

Using the futures report and information we gathered from
various efforts like the NRC Futures Jam, we identified four focus areas for
transformation: our people, use of technology, Be RiskSMART, and
innovation. These form the basis for a transformation journey roadmap.

This roadmap first identified and prioritized eight initiatives,
all of which are complete, except for our ongoing efforts to achieve the
Agency's desired culture. That culture initiative is focused on ensuring that
behavioral norms and sustainable processes are incorporated into how we do
business. You'll hear more about this later in the presentation.

The goal for 2020 was largely about developing the tools
and resources that would fuel our transformation. Each of the eight initiative
teams worked throughout the first year to familiarize the staff with their topics
and work collectively to identify ways to modernize.

Each team developed tools or products in pursuit of their
desired outcomes or goals and supported individual offices and regions in
developing and implementing their own transformation efforts. This work has
now put in place new infrastructure and tools for the staff to use to continue
the change journey, such as the Be RiskSMART framework.
We also have more than 200 transformation champions and ambassadors, many of whom were previously on the initiative teams. They regularly meet to discuss the specific initiatives they support, challenges they face, and share the lessons learned that can help make progress across the entire Agency.

Having built the infrastructure, our efforts in 2021 are focused on sustaining the change that we have seen in the first year by seeking ways to encourage widespread application of these new tools, approaches, and resources across the Agency.

Our goal of transformation has always been on enhancing our ability to solve the challenges of today and tomorrow, including those that may not even be on our radar yet. And assessing risk is at the center of this effort.

As a safety regulator, NRC has had a longstanding risk-averse culture in our approaches to meeting our mission. While this has served us well in many areas, it has also led to long stretches with little or no innovation and approaches that did not take advantage of modern technology or other resources.

Through our transformation efforts, we've been working to have a broader perspective of risk and have more consistent application and management of risk across disciplines. For example, we're trying to be more proactive in identifying how certain well-managed risk can lead to better decisions that consider the most current information. These efforts will be highlighted in our presentation today.
The focus of this meeting is on these newly-developed risk tools and other resources that were developed in 2020, and how the Agency is making progress to sustain these efforts at both the Agency and staff levels.

Next slide, please.

Okay, so today we'll hear from Stephanie Morrow from the Office of Nuclear Regulatory Research, who will provide an update on the Agency's desired culture efforts. Candace de Messieres from the Office of Nuclear Reactor Regulation, who will discuss the Be riskSMART framework in decisionmaking.

And we will also two mini perspectives regarding the Be riskSMART framework. First, Erin Carfang from Region I will discuss the reactor materials regional perspective. And then Tammie Williams from the Office of Administration will present on the Be riskSMART framework from the corporate perspective.

Nicholas, or Nick, Buggs from the Office of the Chief Information Officer, OCIO, will provide an overview of the NRC's enterprise IT roadmap and data strategy. And finally, June Cai from the Office of Nuclear Materials Safety and Safeguards will discuss the transformation of the rulemaking process, including the application of agile project management concepts.

But before I turn it over to my fellow presenters, I wanted to highlight a few significant achievements since our last meeting with you on transformation. Notably, the COVID-19 pandemic has underscored the Agency's transformation efforts and galvanized the already increasing use of
technology in our day-to-day work efforts.

We transitioned our communication platform from Skype to Teams, that we adopted midstream during the pandemic. We have dashboards proliferating throughout the Agency showing data in a more understandable and useful way. Our volume of easily accessible data has increased by millions of documents that have been digitized from microfiche, and we are actively breaking down silos of information to enhance retrievability.

We are currently developing a technology road map that will ensure access and use of data continues to be enhanced. We have worked almost entirely paperless during the pandemic. These and other transformation efforts enable the NRC to continue to meet its mission in this very dynamic environment. We gained significant experience that will carry forward in our lessons learned.

I cannot say enough positive things about the NRC staff's efforts during the pandemic to meet our mission and to embrace positive change in the ways that we work. Many of these were sparked by the transformation effort. This has not been easy, and it underscores our staff's dedication and commitment to making the NRC a modern regulator.

It bears repeating that we have more work to do as we cannot say that we are transformed. So with this framework established, we're focusing on what's next and how to keep this momentum going.

This is especially challenging considering that our focus areas for the Agency are making sure that we continue to work well during the
pandemic and that our eventual full reentry into our building is supportive of our staff who are key to meeting our mission efforts. We are keeping all of this in mind as we continue to make transformation changes.

One thing that we are doing to keep our momentum for change going is transitioning our transformation efforts from the Office of the EDO to the offices themselves. These next steps are designed to help empower not only the offices collectively, but each and every one of the NRC staff to make innovations on their own and adopt innovations by others.

One example we mentioned during our last meeting got its fueling innovation at the staff level is IdeaScale that was launched by Innovate NRC 2.0 Initiative Team. It enables the NRC staff to share successful innovations and crowd source solutions.

Last week, we celebrated the first year of the platform, which has been visited by over 80% of our staff. Using IdeaScale, we've achieved the completion of 17 challenge campaigns and captured over 480 success stories.

To hold ourselves accountable for sustaining change throughout the Agency, our offices have also developed objectives and key results, or OKRs, for the 2021 calendar year.

One aspect to highlight is that this year, one of our key results is to achieve positive feedback through a first-time survey we will be asking of our external stakeholders about whether they perceive any changes in our mission execution as a result of our transformation efforts.

This concludes my introduction. I will now turn the
presentation over to Stephanie for her update on the Agency's desired culture
effort. Next slide, please.

MS. MORROW: Thank you, Margie. Good morning,
Chairman and Commissioners. It's a pleasure to be speaking with you and
providing this update today. I'm Stephanie Morrow, a Human Factors
Engineer in the Office of Nuclear Regulatory Research and a member of the
Agency culture team.

Today I'd like to give you an update on our efforts to
intentionally manage our culture as part of focusing on our people. I'll
highlight some recent accomplishments, how we're measuring progress in
closing our culture gaps, things we've learned over the past year, and how we
plan to maintain our momentum. Next slide, please.

First, culture is important because it sets the tone for how
we interact with each other, how we make decisions, and how we innovate
and collaborate with one another. Our culture drives how we accomplish our
public health, safety, and security mission.

And even as we've experienced significant changes in our
work environment over the past year, our culture helped to ground us and
keep us focused on our mission. If anything, our recent experiences have
given us even more of an opportunity to reflect on what behaviors and norms
help us be successful. Next slide, please.

Over the past year, we've accomplished a lot, and not just
the Culture Team, but our entire agency as we've continued forward with our
transformation focus areas and found new ways to work together. This slide
includes just a few accomplishments that reflect the shifts we're making in our
culture.

We've engaged staff in culture change. One example is
growing our change agent network to over 200 people from across our
different offices and regions. We've increased recognition. We've done this
in informal ways, like taking time to acknowledge people in the moment, but
also more formal ways. The Innovate NRC Team incorporated a new
innovation awards category into our formal awards program.

We've enhanced communications. Last year our EDO
hosted a first-ever virtual town hall meeting with all staff, and we committed
to continuing this practice on a quarterly basis as part of our culture
improvement plans. Over 1600 staff attended each of the two quarterly
meetings we've held so far this year.

And we shared good practices. We've used a variety of
forums, including our change agent network, meetings with individual offices
and regions, and Agency leadership meetings to intentionally create
opportunities for shared learning, exchange ideas on what's working, and
address common challenges.

We've also been documenting successes in our innovation
platform, IdeaScale. There are currently over 60 culture success stories in
IdeaScale, and that number continues to grow. Next slide, please.

As we make changes and implement new things, we're
using surveys and other assessment tools to measure whether we see
corresponding changes in what our staff experience. Last year, the culture
team took a holistic approach to assessing our culture, which included integrating data from different surveys, interviews, and focus groups. That was our 2020 baseline culture assessment.

This baseline allowed us to measure where we were starting from. At that time, we also defined what our ideal culture would look like so we would know where we wanted to go. We know that culture change takes time, so we plan to do a full assessment again in 2022, two years after our baseline.

For this year, we conducted an abbreviated survey as a pulse check on our culture. We also have the results from the 2020 Federal Employee Viewpoint Survey. The FEVS is one of the data sources we used as part of our culture assessment process.

And both the recent Culture Pulse Survey and the 2020 FEVS provide indications of whether we are moving in the right direction with our culture and climate. Next slide, please.

So I'll start with the Federal Employee Viewpoint Survey. NRC staff took the 2020 FEVS in September, about one year after the launch of our transformation initiative, and six months after our baseline culture assessment. Our FEVS results show a four percent increase in the employee engagement index, which is a key result we track as part of the Agency objective and key results, or OKRs.

This is the highest our engagement index has been since 2011. Moreover, the FEVS questions that increased the most touch on areas that have been a focus for our transformation efforts. Staff have seen
improvement in recognition, a 14% increase in the item, differences in
performance are recognized in a meaningful way.

And the next highest item, with a 12% increase, employees are recognized for providing high quality products and services. Leadership, an 11% increase in senior leaders generate high levels of motivation and commitment.

Innovation, an eight percent increase in; I feel encouraged to come up with new and better ways of doing things. And communication, a seven percent increase in satisfaction with the information received from management. Next slide, please.

The Culture Pulse Survey was open to employees in April of this year, just over one year after our baseline assessment. The results show slight increases in constructive behaviors. People feel like there's more of an expectation to encourage others, help others to grow and develop, and give positive rewards to others.

We also saw significant decreases in defensive behaviors. People feel like there's less of an expectation to look for mistakes, remain aloof, or do things for the approval of others, behaviors that can be detrimental when practices in excess.

Finally, we saw improvements in measures of employee involvement, communication, and perceptions of the agency’s ability to adapt to change, consistent with what we saw in the FEVS. Collectively, these results tell us we are heading in the right direction toward closing our culture gaps, but we still have room to grow and improve. Next slide, please.
Part of measuring our progress on a regular basis is learning and adapting as we go. We’ve learned that we need leadership at all levels. The constructive behaviors we want to see in our ideal culture have direct ties to our NRC Leadership Model, and they apply to everyone, not just those in formal leadership roles – we can all encourage others and help others grow and develop.

Our Culture Pulse Survey results show that managers and senior executives experience our culture as much more constructive than those at other levels. So as we move forward, we want to place even more emphasis on role-modeling constructive behaviors so that our first-line supervisors and non-supervisory staff also experience these behaviors as valued and expected in our culture.

We’ve learned that we need to be very intentional with connecting the dots. More communication does not have to be information overload. And we need to be clear about how our activities fit together and work to support accomplishing our mission so they don't feel like flavors of the month or add to change fatigue.

We’ve also learned that it's important to actively create safe spaces to bring our whole selves to work, fostering psychological safety. Whether it's taking a moment in a team meeting to talk about what's going on in our lives, or a larger forums to share perspectives on what's going on in the world around us, like issues of racism and social justice.

Creating the psychological safety to speak up helps us to make new connections with each other, more freely share information, and
ultimately makes us more effective at working together to accomplish our mission. Next slide, please.

As we continue this effort, some of the ways we plan to sustain our momentum and embed our desired culture into our processes and practices include aligning our employee development programs and plans with the NRC leadership model to address our culture gaps and develop constructive behaviors, skills, and habits. Role model constructive behavior with leaders and in teams to reinforce the behaviors we want to see in our desired culture.

We're starting by facilitating conversations with senior leadership teams in each office and region, and we plan to expand this approach to first-line supervisors and non-supervisory staff.

We'll also include our NRC leadership model behaviors in performance plans, starting with our Senior Executive Service and Senior Level Service members, to make behavior expectations clear and ensure accountability. Next slide, please.

Finally, I’d like to thank and acknowledge the rest of our culture team. Patrice Reid, our team lead. Our full-time rotational staff, who have taken on the heavy load of implementing our Agency culture plans. My fellow part-time support who I've been working with on transformation since the Futures Jam in 2019. And our senior executive sponsors, who continue to provide their time and enthusiasm in championing this effort.

I also include our 200-plus member change agent network as part of this culture team. Their grassroots involvement is critical to
reaching all parts of our agency.

Ultimately, our goal as the culture team is to facilitate change, start conversations, and help apply what we learn so we can consistently reinforce norms and expectations that will help us be a modern, risk-informed regulator.

Thank you for your time. I will now turn it over to Candace de Messieres to talk about Be RiskSMART.

MS. de MESSIERES: Thank you, Stephanie, and good morning, Chairman and Commissioners. My name is Candace de Messieres, a Technical Assistant for the Office of Nuclear Reactor Regulation. It's an honor to be here today to share how the NRC staff can use the Be RiskSMART framework in all decisionmaking.

As you know, the NRC has a long history and firm foundation in risk-informed decisionmaking that includes many successful applications of the risk triplet. That is, the set of three questions that NRC uses to define risk: What can go wrong, how likely is it, and what are the consequences.

While we have continuously improved how we use risk insights to make better-informed decisions to meet our important safety and security mission, risk-informed decisionmaking was not consistently applied across the Agency or used for all types of decisions. And that's why I'm thrilled to be here to discuss Be riskSMART. But before I do, I want to highlight that while being risk-informed can provide for efficiencies and help identify unnecessary conservatisms, it more importantly leads to a focusing of
attention on those issues of greatest importance.

This includes increased regulatory attention and oversight on those items that matter for safety and security. We are making great strides in fostering an Agency culture that recognizes the benefits that risk-informed decisionmaking can afford, as evidenced in the recent survey results that Stephanie mentioned that indicate nearly 70% of staff thinks risk information is important to accomplish our mission. Next slide, please.

The Be riskSMART risk-informed decisionmaking framework was developed to provide staff confidence to consistently apply and communicate risk insights for all NRC decisions without compromising our mission. It is applicable in all NRC programmatic areas, including corporate, technical, and legal support, and is written in plain language.

That is, the framework provides a common vocabulary that can help users break down a problem and make sound decisions based on the best available information, regardless of the application. The framework helps remove the stigma from risk, the term risk, and replaces it with an understanding of the value added by considering risk information, and how a systematic approach can help ensure NRC is focused on items of greatest importance.

Importantly, the framework does not revise or change existing requirements or criteria, such as those supporting oversight or licensing decisions. It also does not invent new concepts, but rather serves as an umbrella to increase consistency, awareness, and usability of existing risk-informed approaches.
Finally, the framework recognizes the multi-faceted nature of risk and helps staff consider those multi-faceted risks systematically and in a transparent manner, whether those risks are technical, programmatic, reputational, information technology, human capital, or others. Next slide, please.

This slide summarizes the key steps of the Be riskSMART Framework. The first step is be clear about the problem. The problem could range from a simple binary question that one faces on a daily basis, to a more complex decision involving multiple individuals or entire organizations, such as how to enhance a process to more fully realize the NRC’s principles of good regulation.

The next step is Spot. Spotting involves evaluation of the risk triplet. But this step also explicitly includes consideration of both the challenges and opportunities associated with a decision. That is, what can go wrong or right. This step can involve both quantitative or qualitative considerations.

Once spotting is completed, then you manage what you can. That is, you consider strategies to reduce the likelihood or negative consequences or enhance what can go right. These strategies could take many forms, from increased communications or training, to additional inspections or review resources.

The Act on the Decision step includes considering all stakeholder perspectives and evaluating what you spotted and managed in the context of the risk appetite for the decision.
In plain language, risk appetite or risk tolerance is simply the amount of risk one is willing to accept. Depending on the decision, it can be defined by an individual, a group of individuals, or an entire organization. And it can be different for different aspects of the decision.

While simple decisions may not require extensive documentation, the framework does provide a tool from enterprise risk management called a heat map to help decisionmakers visualize the challenges and opportunities, the effects of management techniques, and the risk appetite associated with the decision. It is essential for all stakeholders to be transparent about the risk appetite. A populated heat map can support discussions about different perspectives and lead to an optimal decision.

The framework doesn't stop at the action. The Realize step involves implementing the decision while managing what you can and measuring your performance and progress. Realizing could involve effectiveness reviews and other similar assessment tools to measure results that can then be used as part of the continuous performance management strategy to adjust and fine-tune.

The Teach step involves sharing knowledge to a broader audience, enabling staff to apply best practices in new contexts to address novel problems.

Finally, as a continual learning organization, the arrow reflects the iterative nature of the framework, encouraging users to revisit any of the steps at any time, or to even formulate a new problem. Next slide, please.
Now I will shift to discuss how the Be riskSMART initiative team is using a diagnostic tool to assess how the framework is inculcated in our agency's culture. This slide summarizes the tool's features. The vertical and horizontal axes of the graph depict the individual contributor and manager roles in driving risk-informed decisionmaking.

In an ideal state, managers have established the appropriate infrastructure and culture and play active and key roles. However, risk informing starts earlier in the decision process and occurs organically as part of everyday operations. The ideal state considers everyone's opinion, individual contributors, supervisor, every layer of management, and external stakeholders.

The importance of achieving the ideal state cannot be overstated. This state fosters receptivity to new ideas and thinking, promotes participative decisionmaking, transparency and trust, as well as encourages diverse views.

Data collected by the Be riskSMART Initiative Team in 2020 reflected a majority of NRC staff see their organizational unit falling into the center box, reflecting good progress. However, additional work is needed to fully empower individuals.

Notably, the tool also includes specific strategies for an organization to achieve the ideal state, such as enhanced communication, training, and practices that engender trust.

I should also mention this tool is not the only way the Be riskSMART team is tracking progress, as questions on the staff use and
attitudes towards risk-informed decisionmaking are included in several office and Agency-wide level surveys, such as the surveys that Stephanie mentioned.

While additional work is needed, the Be riskSMART initiative is helping the Agency become a more modern risk-informed regulator, as evidenced by the 2021 Culture Pulse Survey results I mentioned earlier, showing that nearly 70% of staff thinks risk information is important to accomplish our mission. Next slide, please.

I would now like to briefly reiterate that the framework envelops the entire spectrum of NRC activities. Specifically, the team deliberately evaluated the mapping of specific guidance or processes in all areas, such as material safety, as highlighted on the top left of the slide, as well as in corporate support, research, reactor safety, legal support, materials safety, and security, emergency preparedness, and response.

As you can see, the framework is compatible with and can enhance the many effective existing approaches and has broad applicability across business lines. A few early examples are highlighted here for illustration, and you will hear about a few more shortly from Erin and Tammie. Next slide, please.

Being a risk-informed regulator is a journey. While it takes a great deal of effort from all staff and unwavering support from senior leadership, it is worth it. And Be riskSMART is there to meet staff wherever they are.

A few items that demonstrate the team’s progress are
highlighted here, including the issuance of a new knowledge management NUREG, the launch of new NRC staff training, and the advancement of the framework across the Agency through objectives and key results, or OKRs.

The NUREG provides a one-stop resource for using the framework, including the case studies, mappings of discipline-specific processes and guidance, and initial diagnostic tool and survey data. The new training enables staff to explore how the framework can be used both generally and to make discipline-specific decisions.

The course consists of three modules, including a general introductory training video, a choose-your-own-adventure scenario section, and a knowledge check.

Finally, aggressive goals have been established through the OKRs, including that 85% of staff complete the training and that the framework is then used in at least 50% of key decisions by the end of calendar year 2021. In addition, OKRs encourage the featuring of the Be riskSMART application in the staff IdeaScale success gallery platform.

I'm pleased to report that while we're still in the early stages, offices are making great progress toward meeting OKRs, including that nearly 20% of staff have now completed the Be riskSMART training. Next slide, please.

Lastly, I would like to thank the entire Be riskSMART Initiative Team, ambassadors, and community of practice. It has been a pleasure working over the past two years with such an amazing and diverse team of talented and dedicated individuals empowered by our team lead,
Mirela Gavrilas, and our several executive sponsors.

Thank you for your attention, and with that, I'll turn it over to Erin.

MS. CARFANG: Thank you, Candace. Good morning, Chairman and Commissioners. My name is Erin Carfang, and I'm a Branch Chief in Region I, with recent experience at both the reactors and materials programs.

I have two examples where Region I had an opportunity to demonstrate the concepts captured in the Be riskSMART framework Candace presented. Next slide, please.

In the reactor program, there are many priorities inspectors need to balance. One site in Region I recently experienced several safety-related breakers failing to actuate as expected over a four-month time period, and licensee actions were slow to address the issue.

This resulted in the question of should additional resources be assigned to reviewing the breaker failures, given the actions that licensees had already taken to address the failures. Using this model, we spotted that the licensee had followed the established maintenance practices and took these issues into the corrective action program and identified the cause of the failures.

The Resident Inspectors were concerned that the site's planned actions were not timely and did not identify the correct extent of condition. Additional electrical expertise was requested by the Resident, and this request coincided with high demand for inspection resources.
The regional staff and management worked together to align on the best path forward, reviewing inspection resources, adequacy of licensee action, and concerns with equipment performance. We agreed that the breaker inspection deserved priority.

And as a result of the extra inspection efforts, the licensee agreed to pull forward the scheduled maintenance, schedule these tasks for the high priority susceptible breakers this summer.

Additionally, a review of the other preventive maintenance strategies and the procedures is being performed. Teaching is one of the most important steps in this process. The Residents have presented to the technical staff and management on the issue, ensuring that other inspectors are aware of the potential failure when conducting inspections. Next slide, please.

A gamma sterilization irradiator licensee requested authorization to replace sources in its panoramic irradiator. This activity is typically performed by the source manufacturer and involves bringing in casks, lowering the casks into the pool, and loading source racks with the source pencil under water.

The irradiator serves a critical function because it used to sterilize medical supplies. The licensee was initially prompted to submit a license amendment request due to COVID-19 travel restrictions. However, they now feel they need this authorization because they anticipate reduced source replacement support from the source manufacturer in the future.

This brings us to the clear question should the region
approve the licensing action. So we evaluated the risk triplet and considered
the benefit of taking the action. The benefit of the action is improved reliability
for resourcing in the future for the licensee. While the challenge is potentially
improperly installed sources that could be brought to the surface.

The potential consequences include the benefit of ensuring
critical medical supplies remain available, while the challenge could result in
an extremely high dose rate to site personnel if the source is exposed on the
surface of the pool.

In managing the risk, the licensing staff considered the
likelihood of consequences is highly dependent on the training provided to the
licensee staff to conduct the activity safely, which is firmly within the licensee's
control.

The regional staff worked collaboratively with Headquarters
to ensure other views outside of the region were considered in the
decisionmaking. In consultation with NMSS and OGC, Region I acted by
issuing the license amendment in May of 2021, allowing the licensee to
perform the action.

The results of this licensing action include the inspection of
the source racks, given recent operating experience, as well as the inspection
being a high priority observation item for the regional staff while providing
operational stability for the licensee.

Knowledge transfer sessions are planned on this topic
within the region and the activity slated for inclusion in the Region I monthly
newsletter put out by our regional risk-informed decisionmaking working
Thank you for your time. I will now turn it over to Tammie Williams to talk about a corporate perspective using the Be riskSMART framework.

MS. WILLIAMS: Thank you, Erin. Good morning, Chairman and Commissioners, my name is Tammie Williams. I'm a Senior Space Management Specialist in the Office of Administration, and I'm here today to talk about how the Be riskSMART framework can be used broadly in different ways beyond the Program Office to include a corporate support perspective.

To help with that, I'll walk you through an overview of a corporate example we have in our training materials on how Be riskSMART can be used. We took the implementation of the Two White Flint restack project, which is an example of how the decisionmaking process can benefit from accepting well-managed risk, and assessed it using the new risk model.

Next slide, please.

NRC committed to releasing one floor of the Two White Flint building to the General Services Administration, or GSA, by the end of the fiscal year 2020. This was in support of federal-wide initiatives to reduce office space across the country.

The restack process impacted several offices, Research, OCFO, NSIR, Admin, OCIO, and multiple floors across the building. Early in the restack process, the COVID-19 public health emergency occurred, and we were challenged with finishing the project in a compressed timeframe and to
adapt many aspects of the project to a virtual environment for the first time.

The team needed to determine if there were any parts of the process that could be expedited, delayed, or avoided without imposing unacceptable risk. The team spotted where things could go right or wrong, the consequences, and the likelihood of occurrence. For example, if elements of the planning and office selection phases were missed, then collective bargaining agreement, CBA, commitments with the union may be impacted.

Experience showed a high likelihood for non-compliance if these earlier phases were expedited, affecting the subsequent phases and ultimately resulting in an overall schedule delay. Unbudgeted rents would incur, and NRC would experience a reputational impact with the GSA.

The risks outweighed the potential benefit of saving time during these early phases. Instead, the risks inherent in the physical aspects of the move were managed by utilizing experienced movers and technicians and relying on staff. The risk of conducting some activity virtually for the first time was managed by increasing communication and coordination with the office point of contact.

One of the actions taken to expedite the process was conducting the move incrementally as the office selections were still being completed. Additionally, the turnover process including a tour of the space was conducted virtually with GSA.

The result what was realized was the majority of the moves were completed by the end of the fiscal year. Decommissioning activities
took place in the October timeframe, and turnover of the space to GSA occurred in November.

The timely completion of the project allowed the Agency to release one floor to GSA, enhanced NRC’s reputation for fulfilling requirements on time, and reduced NRC’s rent and real property-related costs.

To teach what we’ve learned, this example is included as a case study in the NUREG that Candace had mentioned earlier. We’re also implementing lessons learned in other projects. Next slide, please.

Looking back at the assessment exercise, it helped us to realize that the Be riskSMART framework can be applied anywhere, and that many of the existing processes fit within the framework or enhanced by it.

It showed us that staff at a working level in corporate support are already organically assessing and managing risks in their daily activities, with the most successful aspects of the project being those that were staff-driven, which is consistent with the diagnostic ideal state that Candace had described earlier.

Additionally, we realized the importance and the key interdependence on other NRC initiatives for the success of Be riskSMART, including the Agency desired culture initiative and the associated tools, such as speed of trust and the NRC leadership behaviors, that really helped move us to the ideal state.

Thank you very much for your time, and I will now turn it over to Nicholas Buggs to talk about the NRC enterprise IT roadmap and data
MR. BUGGS: Why, thank you, Tammie. Good morning, Chairman and Commissioners, my name is Nicholas Buggs and I’m a Senior Enterprise Architect in the Office of the Chief Information Officer, or OCIO.

I would like to thank you for the opportunity to speak with you today about the IT roadmap and the data strategy. Next slide, please.

As exemplified in the previous topics, the Agency continues its transformation journey towards becoming a more modern risk-informed regulator. Throughout this journey, the role of strategic investments in IT modernization as mission enablers has become more apparent than ever.

Process changes, culture shifts, workforce enhancements, and a greater reliance on collaborative tools in a mixed working environment all require changes to the IT architecture to enable this transformative change. Next slide, please.

The desire for change inspired by innovative thinking, a culture of transformation, must be balanced by strategic thinking and collaborative planning to ensure that the Agency is able to meet its goals in the most efficient and effective way possible.

This balance can only be achieved when Agency leadership is aligned on its priorities and promotes the implementation of new initiatives that provide the greatest value to the Agency. Next slide, please.

To this end, the Office of the Chief Information Officer, in consult with subject matter experts and leadership across the Agency, have been working collaboratively to develop an IT roadmap. An IT roadmap is a
strategic planning tool that aids in the identification and selection of key strategies and initiatives to support the continual operation and improvement of the Agency's IT portfolio.

This approach enables the Agency to more effectively select and implement the appropriate set of IT investments to maintain operational readiness and to meet evolving Agency mission needs.

Initial development of the IT roadmap took a three-phased approach. The first phase was designed to articulate the current state architecture of the Agency. This involved outreach to subject matter experts in every office and region to identify the key processes, stakeholders, and systems involved in meeting functional and organizational mission objectives.

Through exploration of the current state, we developed a set of observations that suggested opportunities for enterprise-level improvement.

The second phase was designed to articulate the future state architecture of the Agency by validating the opportunities for improvement and envisioning the desired capabilities to close operational gaps and enhance operational effectiveness. With the current state articulated where we are, the future state defines where we want to be.

The final phase includes the development of key strategies and initiatives that are needed to achieve the desired future state over the next three to five years. This phase of the effort is still ongoing as we seek to consolidate strategic input and the set of projects needed to meet our strategic objectives. Next slide, please.

Some of the key business drivers that have been identified
throughout this effort include optimized Agency business processes and modernized workflow and workload management solutions to support greater process efficiency, improved visibility into staff workloads, and more effective resource allocation. Improved staff ability to access and analyze system data, as well as documents within Agency repositories, as a means of promoting the staff's ability to leverage the Agency's collective body of knowledge.

Expanded use of modern IT solutions to collect and communicate information from and to external stakeholders to enhance the automated use of data for decisionmaking and downstream analysis.

And lastly, optimized workspace design to support a hybrid working environment to accommodate full and part-time on premise and remote work. Next slide, please.

Once complete, the IT roadmap will serve as a strategic planning tool in the selection of strategic investments year after year. It will help to ensure that fact-of-life changes, emergent requests, and risks and issues are considered with respect to existing strategies, while providing opportunities to consider strategic course changes when needed. As such, the IT roadmap will enable agility while providing a common strategic thread to support decisionmaking. Next slide, please.

One significant input into the continued evolution of the IT roadmap among many is the Agency data strategy. The data strategy will describe the Agency's overarching goals for the enterprise management and use of data and the key strategies needed to achieve them.
These strategies are used as input to the ever-evolving IT roadmap by articulating the strategic initiatives needed to maximize the NRC’s ability to use data as a strategic asset. The data strategy will consider our workforce, our processes, our use of technology, and of course our stakeholders.

It will articulate the Agency’s approach to meeting its priority objectives through initiatives designed to enhance our data culture, which represents our collective desire to promote the use of data, inform the evolution of our business processes, leverage modern capabilities, and improve our ability to collect actionable information from external stakeholders. Next slide, please.

The first step in the development of the data strategy was the definition of the set of strategic objectives or goals that the Agency is seeking to achieve. These goals include promote the secure management and control of Agency data, promote the collection, transformation, and use of data. Promote the continual data management and maturity of Agency staff and processes, and promote the use of data-driven insights.

Pursuit of these goals will enable the Agency to continue to advance in the areas of data architecture and governance, data management, data maturity, and data analytics. Next slide, please.

With these goals in hand, the staff will work with stakeholders across the Agency to gather information and to perform assessments across a number of key areas. These areas included Agency systems and tools, data assets, and data management maturity. These
inputs were used to identify key findings, observations, and recommendations for improvement which served as the foundation for the development of specific data strategies needed to achieve the data goals.

Examples of these recommendations include expanding the integration of system data sources and the data warehouse, establishing enterprise data standards for key cross-functional data sets, and filling data literacy gaps through selective hiring, cross-training, and professional development. Next slide, please.

These strategies not only identify new opportunities for improvement, but they also encourage the continued exploitation of existing data initiatives, such as expansion of the Agency's enterprise data warehouse to the identification and ingestion of new data.

Expanded use of the Mission Analytics Program, or MAP, through Agency-wide exploration of business analytics use cases. The enhanced data stewardship of functional organizations through the localized identification and curation of data for analytics. And promoting the expanded use of data in the generation of evidence to support programmatic evaluations to answer priority Agency questions. Next slide, please.

As you can see, the IT roadmap and the data strategy provide the Agency with strategic planning tools to promote the identification, selection, and implementation of key IT investments that will support the NRC's transformation journey. These tools are meant to evolve in concert with the business needs of the Agency's workforce, business processes, technologies, and the stakeholders.
Again, thank you all for your time. I will now turn it over to June Cai to talk about the transformation of the rulemaking process.

**MS. CAI:** Thank you, Nick. Good morning, Chairman and Commissioners. I am June Cai, a Branch Chief from the Rulemaking Center of Expertise in the Office of Nuclear Materials Safety and Safeguards. Today I will be providing an overview of our recent rulemaking innovation effort and showing you some of our completed products.

Before I begin, I would like to take the opportunity to acknowledge a number of individuals who have contributed to the presentation contents you will see and hear about today, including Caylee Kenny, Dan Doyle, Mary Anderson, Alexa Sieracki, Cindy Bladey, Ilka Berrios, and Tania Martinez Navedo. This has been truly a full team effort. Next slide, please.

In 2019, the NRC's Rulemaking Center of Expertise self-initiated an effort to strengthen the Agency's rulemaking process to align with our vision of being a modern risk-informed regulator. For this initiative, we focused on identifying opportunities to enhance the quality and timeliness of our rulemaking products and further strengthen staff and stakeholder engagement.

We took a holistic, integrated review of all aspects of the rulemaking process that were within the staff's control to look for ways to innovate and improve. In carrying out our efforts, we leveraged the diversity in the backgrounds and skillsets of our staff. We energized and empowered our staff to take ownership so that innovation and continuous improvement
can become more fully integrated into our culture and routine operations.

Next slide, please.

We reviewed a variety of internal and external inputs and resources. Based on our analysis, we identify opportunities for enhancements at both strategic and tactical levels and we organize them to five key enhancement areas. This simple graphic provides a summary of the results. Next slide, please.

The first area, decision tools for developing a graded approach to rulemaking, establishes a framework for facilitating a strategic risk-informed decision path for rulemaking and expected to provide the most impact. Next slide, please.

The other four areas help develop and implement rulemaking activities in more efficient, effective, innovative ways. These include strategic thinking and planning and prioritization; process enhancements and efficiencies, such as application of agile project management concepts; product development and concurrence, such as modernizing review and concurrence practices; and organizational effectiveness, such as serving as early adopters of Agency transformation tools and processes.

The full set of initiatives are designed to operate together to support the entire rulemaking process. We issued a report about our effort in July 2020 and have been implementing and refining the associated actions since that time. This is a living and continuous effort. We have completed some products, others are in progress, and some new efforts have been
recently started.

Over the next several slides, I will be highlighting some examples of our recently completed key products. Next slide, please.

We call this our super infographic. It serves as our navigation tool and contains references to all the products we have developed to support the full process, from initiating rulemaking to developing and reviewing rulemaking products, to highlighting successful outcomes. We plan to keep this graphic updated as we develop additional items. Next slide, please.

To begin the rulemaking process, here are the two tools we have developed to help guide the decisionmaking to identify the best path forward. The first tool helps us determine if rulemaking is the most appropriate path to meet a regulatory need.

And the second tool helps us to develop a tailored approach to meet that need in a risk-informed manner based on consideration of factors, such as the complexity of the issues involved and effective stakeholder engagement. Next slide, please.

An important consideration on many rulemaking products is appropriate engagement with Agreement States as our regulatory partners in the materials safety area. This infographic serves as a helpful tool for both internal Agency use and for communicating with our stakeholders to explain why and how we engage Agreement States through the different stages of the rulemaking process and the expected benefits.

Once we delve into the developmental process, the tools
described in the next three slides are helpful for supporting different project stages. Next slide, please.

First, to facilitate overall management of rulemaking products, these two infographics provide helpful insights on the potential application of concepts from agile project management methods, such as the general Scrum framework, which is traditionally used in the IT arena to achieve improved project outcomes, such as increasing product quality and minimizing project redirection. Next slide, please.

Once we move into development of our rulemaking packages, our staff can use these two infographics, which provide best practices and helpful tips for writing quality to develop well-written materials and reduce the need for significant revisions. Next slide, please.

After we complete development of the rulemaking package, we use many of the practices on this infographic to facilitate the review and concurrence process in a more streamlined manner, leverage new technology tools, and tailor approaches based on specific project needs.

In identifying and developing these practices, we coordinated closely with the Agency’s Process Simplification futures team, and we designed these to complement their efforts. Next slide, please.

Finally, once our rulemaking projects are completed, we have recently started publishing publicly available summaries called rulemaking highlights to help illustrate how specific rulemaking activities have contributed to the Agency’s mission and how staff have applied specific innovations and efficiency measures during the development process. Next
Next, I’d like to share some examples of the impacts of our progress. To begin with, we have been able to develop tailored approaches to meet different regulatory needs and schedule needs. I have three specific examples to share here.

First, for the rulemaking on the development of a risk-informed, technology-inclusive regulatory framework for advanced reactors for Part 53, we’re performing significant public outreach, including releasing preliminary proposed rule language for public discussion and holding monthly public meetings and workshops.

Second, by applying process efficiencies, we have been tightening timeframes needed for conducting rulemaking to address spent fuel casks’ certificate of compliance amendments, while at the same time being able to accommodate an increase in volume of requests during Fiscal Year 2021.

Third, we have taken focused steps to provide additional opportunities for Agreement State members to participate directly on working groups on a number of different rulemaking projects in the materials area.

The next example of an area of impact is we have been able to demonstrate the ability to quickly adapt to using new technologies, such as new IT tools for conducting collaboration and parallel reviews. Also, we recently used IdeaScale platform to seek Agency-wide input for the categorical exclusions from environmental reviews rulemaking.

We have also been able to quickly incorporate new process
improvements, such as the new commission paper alignment process into ongoing projects. Furthermore, we have been able to enhance how we communicate with the stakeholders using more innovative and modern tools, such as the case studies I just described, as well as through multiple social media channels.

Finally, we have been able to strengthen our organizational capacity. Our staff have been able to learn to use new IT tools. They’ve been able to broaden their project management practices. And they’ve been able to work together on cross-discipline topics.

In addition, all these efforts will help us facilitate knowledge management and the growth of the next generation of rulemaking staff. Next slide, please.

In closing, I’d like to share some reflections on what worked well in this initiative from a change management perspective. First, we recognize that there’s always room for improvement. Even in an area like rulemaking where there are many requirements we have to meet and processes and procedures we have to follow, there are opportunities to innovate and make improvements.

Second, this has truly been a grassroots effort, and we were fortunate to also have strong management support, which helped amplify our progress.

Third, it truly takes a village, or in this case, a center of expertise. We have staff across our organization working and pulling together to achieve these results.
Next, I want to highlight the importance of focusing on progress, not perfection. Incremental improvements can truly add up over time to make more significant and lasting impacts.

And finally, I want to emphasize the importance of creating a safe environment for taking informed risk and applying creativity. In order to innovate, our staff has to feel comfortable taking some calculated risks and try out new things, even if they don't work out perfectly. The only way we can grow and adapt is if we keep trying and learning from our experiences. Next slide, please.

Our rulemaking innovation efforts are expected to mature, grow, and adapt over time. NRC's Rulemaking Center of Expertise is committed to continuously strengthening the Agency's rulemaking process and serving as a model of federal rulemaking excellence.

I am honored to have been able to share about innovation efforts with you today and for this chance to represent the committed and talented staff from the Agency's Rulemaking Center of Expertise. I look forward to answering any questions you may have. I will now turn it back to our EDO for closing remarks.

Thank you.

MS. DOANE: Okay, thanks, June.

As you've heard today, we have realized so many accomplishments on our journey, while also responding to the dynamic environment in which we are currently operating. Our operating experience has taught us that transformation is absolutely necessary and should be
maintained. We will continue to closely monitor our external environment in order to appropriately and timely respond to outside factors.

We must do this so as to not find ourselves in a position where we are at risk of not being able to keep pace with what is occurring around us.

We will continue to encourage and support innovative approaches to carrying out our important safety and security mission. And to do this, we'll work on realizing our ideal culture, one that supports creativity, diversity in all its forms, and appreciates the need for change.

We will continue to carry forth the valuable lessons we have learned throughout our transformation journey to best position ourselves for a successful future. As you've heard today, while there is always room for innovation, there's always room to learn as well, especially in a safe environment for taking informed risks while creating these innovative approaches.

These past few years have been about developing a strong, clear plan for transformation. Now that the framework and goals have been established, we want to empower the staff to continue to evolve these efforts and truly make them their own.

I wanted to say thanks to these individuals at the table with me today and to the core team, especially Maria Arribas and Mary Frances Woods, who is on a rotation to the OEDO’s office from OGC, for their hard work in putting this material together. I also wanted to acknowledge all those that have supported in one way or another the initiative teams, and to the staff
at large for embracing and helping to achieve all of these successes.

As I have said many times and I feel like we should say it again, our staff is what makes the NRC a great place to work.

This concludes our remarks, Chairman and Commissioners, and we are happy to take your questions.

CHAIRMAN HANSON: Thank you very much, Margie, and thanks to the staff for that presentation. I appreciate it very much. We're going to start the questions this morning with Commissioner Caputo.

COMMISSIONER CAPUTO: Good morning, everyone.

Thank you very much for all of these presentations. It's clear that there is a significant amount of staff engagement and creativity being applied here, and I thank everyone for their presentations.

Margie, I'm going to start with you because as Executive Director, the success of the Agency's transformation rests upon your leadership.

This meeting reflects the Commission's recognition of the need for transformation, and our focus on it over the past several years. Transformation, innovation and agility have entered our lexicon and have become frequent buzzwords.

I see innovation as an integral part of our value of excellence, high quality, continuously improving and self-aware. Transformation, however, is different and implies a much larger, wide ranging change.

We spoke early on about the goal of our transformation
efforts and the result was to become a modern risk-informed regulator.

Margie, you stated that we are making progress in all transformation focused areas. Other than culture surveys, what objective, measurable metrics are you tracking to support that conclusion?

MS. DOANE: Okay. Thank you, Commissioner. So let me focus on what the areas are, so people, technology, and Be riskSMART, and I'll come up with the fourth. I don't know, for some reason I'm blanking. But any focus areas, what we have done is a number of different things.

So let's focus on our people. From the perspective of our people, the objective tracking measures that we've been using are two-fold.

First, we've been monitoring what's been going on with the creativity in our journey, our staff journey, and also the other activities that the initiative team focused on our people from the perspective of mid-career staff and have been identified as what would be helpful to improving their journey and also their experiences. And so, as you know, we have created a number of different tools for them to use.

And so the way that we've objectively monitored whether those tools have been helpful is by monitoring how many people touched the Web site, how many people use it and also we get feedback regularly on that Web site. So that's one thing that we're doing and focusing on our people.

Another area that we're looking at focusing on our people is the culture. And as you heard we're doing Pulse Surveys, and both our FEVS and our Pulse Surveys have improved in meeting our desired culture. So that means --
(Simultaneous speaking.)

COMMISSIONER CAPUTO: Right. We've already heard about those this morning. Can you give me a different --

MS. DOANE: Okay.

COMMISSIONER CAPUTO: -- set of metrics?

MS. DOANE: Okay. So just heading into these, okay?

And then IdeaScale, I went over a few of those metrics, who has touched the site and where our success stories are and things like that. So those are the metrics that we're using for innovation.

For technology, what we're using are various tools like how to measure whether we're retrieving data better, whether we're using -- we keep all kinds of metrics on whether we're using the technology.

So for example, I don't have the figures with me, but we tracked how many people were using Teams. And our daily metrics showed, like for example when we went into the pandemic that we went from almost little to no usage to immediate usage, very effective usage. And then we also tracked our transition to Teams to see that we had the same uses and effective uses.

So we had various metrics, all kinds of metrics in that area.

COMMISSIONER CAPUTO: So you're tracking implementation of a lot of tools and whether or not the tools are being used. Do you have any results to suggest it's actually improving staff productivity or increasing efficiency?

MS. DOANE: Yes. So let me start with -- and Annette's at
the table so she can help me, but let's talk about like productivity, for example, on process simplification.

For process simplification, we focused on SECY papers, as you know, and depending on how -- I've seen two different data measures for this, but depending on how you are measuring whether you've seen efficiency in this area, we've seen a 30 percent, at least a 30 percent reduction in the time it took to put papers forward.

So that's an example of a very specific outcome and a measurement from what we did before and what we did now and how that's an improvement. Like I said --

(Simultaneous speaking.)

COMMISSIONER CAPUTO: So do you have any way of comparing the time the staff has spent training on these tools, learning these tools and making advances, transformation advances? Do you have any way of comparing that to those productivity improvements to see if we're, you know, seeing benefits from this activity?

MS. DOANE: I mean, I think we have a way of measuring the benefits. The time it took to get there is not -- I don't think -- we do measure it because they have to keep track of their time. But we haven't done a comparison of, like, for example, the first -- so let's say we have on these routine papers we've seen a 30 percent increase in the time it took to get the papers to the Commission, right?

And we haven't done a comparison to well, did it take 30 percent of staff, more than 30 percent of staff time to get trained and to learn
these things? No.

And because that's like a one-time investment, you would have to do that over a series of time. In other words, you would have to watch these things over a series of time to know whether your initial investment.

But, no, we haven't done that function, that comparison.

COMMISSIONER CAPUTO: Okay. I think that would be a worthwhile review just to understand how much benefit we're getting out of the amount of staff time being invested.

I'm going to move on to a question about IT. So Nicholas discussed a lot of important concepts and aspirational goals with regard to the IT roadmap. But Margie, I'm going to address this question to you.

It would be more fairly addressed to the Chief Information Officer and certainly unfair to ask Nicholas. But let me start by saying our people are our most important asset. And we have strategic workforce planning to ensure we have the right people for the right work at the right time.

They're our most important tool.

And our second biggest line item is IT. And while I appreciate Nicholas' presentation and consider it a step forward, I'm not clear how detailed the roadmap will be.

So my question, Margie, and my understanding is that it is not ready yet and thus has not been available to inform budget development.

So my question to you, Margie, is how much longer are we going to continue to spend in excess of $150 million on IT without having a comprehensive plan to ensure we have the right tools at the right time to meet
the Agency’s evolving needs and prevent last minute scrambling to address
easily foreseen issues such as software obsolescence and Wi-Fi installation?

MS. DOANE: Okay. Let me see if I can -- thank you, Commissioner, for these questions. Let me see if I can answer them in the way that you put them.

Okay. So how much longer until we have a comprehensive plan? We are anticipating this for later during the summer that we'll have the plan. So I appreciate that the budget formulation process that's going on now hasn't been informed by that process.

But we certainly have had planning in place for many, many years. It's how we were ready for the pandemic in going all virtual. What we didn't have, and I will tell you this honestly, so we had, for example, we knew we needed to move to laptops. And we knew needed to move to Wi-Fi. We knew we needed to do a lot of things.

So we were bringing the Agency down. We were reducing the number of staff and corporate investment. We were going down, not up. So we were trying to do a number of different things in a sequenced event so that we -- sequencing them so that we could meet this plan, like, for example, get laptops, Wi-Fi and different things, but we were doing it over a number of years because we never had the funds to do it in any one year. So we did have planning.

We had a number of things that were in the queue. We had laptops. We had Office 365 that was coming down. We had Skype at the time, as you know, Commissioners. We've had this conversation before.
So we had a lot of things that were good things that were in
the planning and were being carried out as funding became available.

But there were pressures on this same corporate support
funding. And so we couldn't fund all of them. So it looks frenetic as you tried
to then fund them later or pick them up from resources that become available
but in fact it wasn't. We had these things listed, and we always knew that
these were where we wanted to go.

What the transformation did for us is it helped us focus.
And I give the OCIO credit for this, Dave Nelson. It helped us focus on why
we weren't putting these technology advances into our working environment.
And it was because we were not focused on technology adoption for our staff.
We didn't look at what was keeping them from doing it. And that's really been
the transition and that's made all the difference.

So I think we have had good planning. I think we've got a
lot of great ideas. We just haven't been able to implement them.

Why is this different? So then you might say well, then,
why do you need this IT roadmap and data strategy? Because information
and data are flowing in at an increasing rate, and technology is continuing to
evolve. And so the benefit that we have now that we're getting this -- the staff
is now accepting using this technology is now we have a transformation that
will enable us to use technology at a faster rate and to make better decisions.

We also have --

COMMISSIONER CAPUTO: All right. My time has
expired. So I'm going to cut you off right there. I think it's usually important
when managing expenditures of that size that there be a significantly detailed plan to ensure we're spending the money prudently and meeting needs.

And I’m going to beg my colleague's indulgence. This is my last meeting. There's one last comment I would like to make. I'm sorry that we haven't had a speaker here today from the CFO's office. And I want to take a moment to commend them for their work on budget execution dashboards.

This has been a strong step forward toward the better use of data in budget formulation and execution. And I think it clearly reflects a fair amount of hard work, and I appreciate their efforts.

However, I would characterize this as an innovation, not a transformation. Our oversight and licensing workload is down 45 percent since 2016 and likely to decrease further given the potential for as many as five reactors to close within the next year.

In 2021, this workload was the equivalent of 439 FTE. That means for every FTE doing oversight and licensing work, there are 5-1/2 others doing other things.

In 2016, that ratio was 1 to 3-1/2. This is not a sustainable trend. I personally believe this is an enterprise risk, and there is a strong need for transformation in budget formulation execution to manage it. Thank you for the time, Chairman.

CHAIRMAN HANSON: Commissioner Wright.

COMMISSIONER WRIGHT: Thank you, Mr. Chairman.

And thank you so much, everyone, for your presentations.
I continue to be impressed with your enthusiasm for transformation and the impact that it's having on the way we do business and even at last week's innovation celebration, staff called IdeaScale, I think, an ecosystem of innovation, if I remember correctly. And then that connects and inspires us. And I like that term, you know. And I think that it also applies to the network of interconnected transformation projects.

We could also say that we have an ecosystem of transformation that drives us toward our goal of becoming a modern risk-informed regulator. So with that in mind, I've got several questions I'd like to get to. And Margie, I'm going to stay with you.

There have been several change initiatives undertaken in the past decade and longer. But it seems transformation seems to be one of the most or the more successful in terms of sustained engagement and somewhat measurable results.

You know transformation, it's a broad term. I've really not personally been a big fan of that word as a standalone for the Agency because I kind of agree here with Commissioner Caputo here. I think it's more what we're trying to do and what we're going through at the Agency, it's really big on innovation. It's really big on adaptation of how to use data in better ways.

You can call it transformation if you want. That's fine. But I do think it's probably more than just one word. I mean, we're morphing. We're changing. We're constantly moving. And I guess that's what you mean when you're using the term transformation.

But it doesn't work unless we have a proper vision of where
we want to go, right? What's our end game? Otherwise I think it's problematic.

What do you think is different about this effort that is contributing to the successes that you have seen so far that you point to?

MS. DOANE: So I think -- first I will tell you that past transformations had their own successes like, I know, the Reactor Oversight Program, the ROP. So there have been successful transformations. It's just that we didn't sustain a culture of transformation and innovation.

So what I think is really different about what we're doing today is we're really marrying these transformation efforts. We can call them innovations or I'm open to any of it. But they're just good ways of enabling staff to do their work better.

And so we're marrying that with really paying very close attention to the health of the organization. And having a real effort on culture and what a culture that embraces change looks like, why that's good for the staff, making this like a really, making every day a great experience for the staff as they go through doing different things and looking for ways to improve how they do their work, all with an ending towards making better decisions.

That's in the end. That's our product, right? That's the NRC's product. It's our decision-making. We're a regulator. We want to make better decisions, more efficient, more timely, better, taking into consideration more data.

So the vision is that we'll get to a point where our surveys are showing that this culture has really moved. We've seen a real shift. And
so now we have the culture and how the organization is marrying up with these
different things that you're hearing about. You know, you can't help but be
excited about all the different things that staff are working on. But there
needs to be this marrying of the two, the health of the organization with all the
goals that we're setting.

COMMISSIONER WRIGHT: I --

MS. DOANE: And I think -- I'm sorry.

COMMISSIONER WRIGHT: No, go ahead, finish. Go
ahead.

MS. DOANE: So that's really the vision. The vision is, you
know, it morphs into -- what it morphs into is no longer this like push down
from the top saying, you know, we have to do things better. We have all these
areas of stagnation, different things, to the staff, telling us. And they're
already doing it. You're not going fast enough. You're not doing this. You
know, we could do more. And that's really the vision of a transformed agency
for the NRC.

COMMISSIONER WRIGHT: All right. So, I mean, I'm a
huge fan of the use of people like Embark and Innovate and IdeaScale and
those. I'm a big fan.

So this brings me to two questions. And it's two different
questions, but I'm asking them at the same time.

So how are we capturing those lessons learned for future
initiatives? That's the first one.

And my second question, how often are you recalibrating or
refocusing on the vision as a whole for the Agency? Because you mentioned just a second ago that it's constantly morphing. So how often are you taking a hard look and recalibrating?

MS. DOANE: Okay. So first how are we capturing the lessons learned? So we are doing that in a number of different ways. So mostly we use our Web site to capture where we have gone in these various initiative areas and then we get feedback from the staff and then we're continually trying to answer that feedback.

And so depending on how significant the issue is, we'll take it on all the way up to the EDO's level because it's something that really needs that kind of attention or it will be done at the grassroots level.

But we're trying to identify a number of different areas where staff can give us feedback. And so that's how we're really learning the lesson of are we moving in the direction that we want? And maybe that goes to the second really about, you know, are we looking at the vision?

The other thing we're doing is we know that once we built the infrastructure and thank you for mentioning Embark. It's very important. They're our innovation spark plug if you ever -- you know, I know you've worked with them and you've gotten briefings from them many times.

But what we really want to see is we want to see a place in the Agency for these things long-term. And so what we're looking at now is whether we have the right organizational structure. We want to make sure that we can sustain these efforts.

We're trying to, like I said, survey and do other things. Look
at the products that are being produced and see whether we really do see
innovations or changes in small groups and also in large projects. There are
really important things that are going along to make sure we are seeing
progress in these areas.

So we’re constantly looking at these issues. We have a
directorate that pays attention to the survey results, pays attention to the
issues that are going on. The assistant for operations, as you know in the
EDO’s office, is really focused with a good portion of her time on
transformation looking at these various things.

And the way that we make sure that we are capturing the
lessons learned is every other Wednesday we bring a transformation example
to our executives, every Wednesday, every other Wednesday we do this, so
that they’re hearing what’s going on around the Agency and other parts of the
Agency. And they bring them into their organization.

And then finally IdeaScale is really good at capturing
successes. And what it’s linked with is something called Nuclepedia, which
just like Wikipedia, it has pages of how we’ve learned different lessons from
going forward during transformation so that staff can either mimic these or
learn from these experiences or use in a training tool.

So there’s about, you know, too many different things for me
to capture. But I hope that that’s given kind of a glimpse of how we’re
capturing the lessons learned and then relooking at the vision by we still have
a steering committee for transformation, and we have the AO looking at this.
We also have survey results, and these different issues that are brought to us.
And then we bring them to the executive core.

COMMISSIONER WRIGHT: Okay. Thank you. I've got about a minute and a half left. I'm going to switch over to Candace for a second. So, Candace, it's good to see you. And I'd like to again take this opportunity to thank you for all you did as my session coordinator for my RIC grid panel that I'm on already. So thank you. I look forward to working with you in the future, too.

You mentioned the success of the Be riskSMART framework for risk-informed decision-making. We've heard many examples of its use today from Erin and from Tammie as well during the business line briefings.

So Candace, but Erin and Tammie can jump in if they want and they're welcome to add their thoughts, now that you've had some experience using the framework in multiple parts of the Agency and you've completed your first Pulse check, do you think any revisions are needed? And if so, what might they look like?

MS. de MESSIERES: Thank you, Commissioner. And we are still in the early phases of deployment. But I think some of the foundational work that the initiative team completed has really paid dividends in this regard.

For example, we built off of the multiple decades worth of experience that pockets of the organization has in risk-informed decision-making. And we also exercised extensive pilots and case studies.

We sought staff feedback throughout the process of
development at multiple office and divisional level meetings and individual targeted outreach across disciplines.

And one of our guiding principles was that we first do no harm. We deliberately ensured that the framework could accommodate, be consistent with, or enhance the many successful current NRC processes and guidance. And therefore, it's broad, it's flexible, it's scalable.

And, you know, given our initial progress and successes, I don't think that, you know, revisions are needed at this time. But as you've heard throughout this whole meeting, you know, we are a continual learning organization.

And I think that we are always open to feedback. I mean, throughout the whole process, we've been open to feedback, and we've adjusted as needed. The little arrow on the Be riskSMART logo there talks about the iterative nature and that continual learning.

And so while I don't think we need revisions at this time, I would say that I think a lot of additional work will be needed in the future to continue the positive progress to increasing the use of risk-informed decision-making and also maintaining a supportive agency culture.

I think this is really continual work that needs to be done in this area every single day at all levels of the organization.

COMMISSIONER WRIGHT: Thank you so much for that. I just want to, again, focus back on the vision. I really appreciate the fact that we are constantly looking to improve and stuff. And that does not happen if you do it just to do it, you're not accomplishing anything. So the fact that you
are taking a good hard look at how you are doing things and looking how you
can improve on that I think is very important and just not checking a box. So
thank you so much. Mr. Chairman, I yield.

MS. de MESSIERES: Thank you.

CHAIRMAN HANSON: Thank you. Thanks again to the
staff for the updates this morning. You know, as I've said before, I think the
challenge for transformation going forward is kind of fourfold.

The first is to keep the safety mission front and center in all
of our efforts. The second is to sustain a culture of innovation throughout the
Agency.

The third is to realize the return on investment from past
initiatives to make sure that the learnings, as Commissioner Wright pointed
out, are getting captured and that we're institutionalizing some of the business
processes that we've been driven to change. And the fourth is then to expand
and apply transformation thinking to some new areas.

I was really encouraged at the level of participation
throughout the Agency in transformation efforts, right? There were, you
know, something on the order of 1,600 people that were engaged in IdeaScale
events. But I have also heard some concerns from staff that, you know,
transformation is really just, you know, a means to cutting people or
regulations or that it's change just for the sake of change.

And Margie, I guess I'd like to hear from you just a little bit
about how Agency leadership are responding to some of those concerns.

MS. DOANE: So, thank you, Chairman. And I think that
one of the main things that we try to do in all of our communications is to make sure that this is, and you heard it with the speakers, but make sure that it's an iterative process so that we can get our messages out.

And we always start with, you know, what's our mission? It's what unites us. We explain to staff that our mission is something that unifies the staff and the staff believes, every one of them believes in that commitment. And we make sure that we focus ourselves in those meetings of thinking about how did it enable us to meet our mission, to do better, not to somehow impact it.

So I understand that concern. In fact, a lot of what we did at the very beginning when we were setting up these initiatives is to ask ourselves, we kind of kept this as a mantra, like, you know, how do we make sure that whatever we do doesn't impact our ability to meet our mission but instead enhances it?

Okay? So first of all, one thing I would tell you is the concerns about staff, that this is just a means of cutting or doing less. We counter that every day with both our communication from our executives but also we have to be role models.

And so one of the things we've said as being a role model to show that we are improving in this area is the way that we're looking at the culture, to empower staff, to let them bring their perspectives forward, their whole self forward, that is a culture. If we get to our desired result, we will have many more perspectives to bring to the issues. And when staff feels comfortable speaking up, right, then we have more perspectives so we can
make better decisions.

So we're countering this in a number of different ways.

Those are two examples.

And to make sure that it isn't change for change, we have had to refocus this actually. Because we have had situations where we got a little excited about, like, you know, doing things.

And we didn't put in any guardrails because we just wanted to spark innovation. Then we just had innovation everywhere. It was very frenetic. And some of the staff said, you know, it's too much.

So we're putting in guardrails to make sure that we are identifying the problems, and we're doing this in all different areas. You heard Candace talk about it, an IdeaScale. You have to identify this problem.

We were also looking at Embark, Innovation Accelerator and making sure that we're really focusing on the important problems and that we're prioritizing in a way that really moves the Agency forward with what's most important.

So the first year was all about just running as fast as we could to show innovation successes and things like that. But now we're really trying to hone that in a bit, put guardrails in to make sure that we're focusing on those that we're prioritizing and getting results.

CHAIRMAN HANSON: Thanks very much for that, Margie.

I appreciate your response on that.

June, I've got a question for you. I kind of want to follow through on this theme just a little bit. I was really interested in your
presentation about kind of improving the rulemaking process, particularly
some of the things that we're doing internally.

And I think it's important for us to look at those ways in
making the rulemaking process more efficient. But I want to make sure that
efficient doesn't mean reducing opportunities for public involvement in the
process. And so can you talk a little bit about what staff is doing to strike the
right balance there?

MS. CAI: Thank you, Chairman, for the question. So
stakeholder engagement is definitely very important to us in rulemaking. And
it's one of the centerpieces of our decision-making tools that we built in.

I mentioned one of the tools talks about developing an
approach, address whatever the issue and the needs are. And within that
consideration is definitely how do we effectively involve stakeholders?

So we have different examples listed, different guidance,
you know, tools that staff can use, public meetings, putting documents out,
Federal Register notices, you know, social media communications.

And I also mentioned Agreement States involvement. And
we have our separate infographic on how to engage effectively with the
Agreement States.

So in addition to the focus on the process improvement
efficiencies, the effective stakeholder engagement involvement was also a
strong focus area for this whole innovation effort and rulemaking.

CHAIRMAN HANSON: Okay. Thank you very much.

Stephanie, I thought your discussion on culture was really important. And,
you know, I think as Commissioner Caputo has said on occasion you get what
you measure in a lot of these things.

And one of the ways we measure progress in culture and
courage people to take calculated risks and other things is in part through
kind of the appraisal system. And are there changes kind of in the appraisal
system that allow for risk acceptance to innovate and change to send the right
signals to staff that they should be able to come up with new ideas without
fear of failing or being penalized in some way?

MS. MORROW: Well, I can't speak directly to the appraisal
system, but one thing that we've been working on with the culture team is
including more constructive behaviors as part of the appraisal system. That's
something we've been working with OCHCO on, focusing first on our senior
executive service.

There's also, I can't say that it is uniform, but there is
organizational effectiveness as an element and standard in our appraisal
system that I feel like has evolved over the years in terms of how that's
evaluated.

And there seems to be much more of a focus on improving
the organization and really contributing to the organization. And that is where
I would see, you know, the opportunity to embrace risk and make that -- you
know, accept that as part of our culture and incorporate that into our appraisal
system.

CHAIRMAN HANSON: Great. Thank you. So we know
that one of the ways that kind of culture changes and is transmitted is through
stories. So I was really interested in Erin and Tammie’s kind of case studies
of the application of the Be riskSMART framework because I think sometimes
these things can be a little abstract. I admit I don’t always understand what
we’re talking about when we talk about these things.

So I was really kind of pleased to see this. And I know
Candace, you and others have briefed me on this before, but could you share
another example of a success of application of the Be riskSMART framework?
And particularly could you share an example which maybe the riskSMART
framework resulted in putting more resources towards a particular activity due
to its risk significance?

MS. de MESSIERES: Sure. Thank you, Chairman. Yes.
There’s many, many examples. And maybe I’ll briefly touch on a couple.

You know, first of all the framework can be used for not just
technical but process enhancement. So we do have examples where, you
know, in preparing for important decisions, like the 10 CFR 52.103(g) finding
for Vogtle Unit 3, the framework was used not for the actual decision but to
ensure the process enhancements were available there.

The early implementation of the principles was used in
FLEX decisions regarding the finding level. So, you know, should all FLEX
findings be green? And in that case, you know, no, that wasn’t appropriate
and that used the principles from the framework.

We have examples, you know, from operator reactor
licensing where, you know, it may be that it’s more important to use, you know,
rulemaking processes to address an issue or, you know, do formal exemptions
versus other, you know, processes.

You heard from Erin about her example from the region. But, you know, there’s also many examples of using the framework that resulted in increased inspection resources, for example, evaluating safety-related breakers at Region I. So the list, you know, goes on.

I also just want to mention from a personal standpoint in my use of it on a daily basis, and I recognized this right away during the pilot, one of the pilots that's highlighted in the NUREG, that there is a -- some of the benefit of the enhancement area is that the decision is based on a full suite of possibilities, scenarios.

It really enables you to hear all of the perspectives, to talk frankly about the risk appetite, get, you know, enhanced documentation. There are things that I've come and just again daily use of the framework that I just wouldn't have thought about managing if I hadn't really stepped through that systematic approach.

And so I think it enhances personally my decision-making every day. And I've witnessed with many examples. I think I'll --

CHAIRMAN HANSON: Okay.

MS. de MESSIERS: -- take any other questions.

CHAIRMAN HANSON: Thank you very much, Candace.

I appreciate it. Commissioner Baran.

COMMISSIONER BARAN: Well, thank you all for your presentations and your work to encourage innovation at NRC.

I'd like to ask about the effort to improve the concurrence
process for sign off on rulemaking packages and policy papers to the Commission.

I think it's fair to say that the Agency has struggled with a concurrence process that often takes a long time to complete and leaves people on the concurrence chain uncertain about what they're responsible for reviewing.

June, you talked about this a bit for the rulemaking process. Are the practices you discussed on Slide 46 the same ones used for policy papers to the Commission or are those two different process improvement initiatives?

MS. CAI: So I'll speak for rulemaking products and then perhaps turn it to Margie on the overall paper process.

So what you see on Slide 46, this is really a very organic collection of best practices that rulemaking staff developed over the last couple of years to help us improve the concurrence process because we have a lot of documents that we're working on, you know, at any given time and they all have to go through concurrence.

And so we had our staff coming up with these great ideas. And I want to give a shout out to Alexa Sieracki and Caylee Kenny because Alexa worked to collect all these good practices you see on the slide from the various staff. And then Caylee worked with her to put it all together.

Around the same time, the Agency process simplification team was doing their work. And so Alexa actually served on that group and shared many of these practices and some of the ideas that we've been trying
out in our experiences. So she sent our experiences directly to that group. And so you'll see in the end many of these practices complement what the Agency is doing under the process simplification team.

There is a lot of focus on making sure that we get early alignment. There is an alignment meeting that's held under this new Commission paper development process to make sure we have all the key players at the table and we agree who should be on concurrence and what their roles are. And so we're definitely implementing that. And we have earlier versions of that practice as reflected in the infographic.

We've also been using parallel concurrence extensively. We made that shift about a year, a year and a half ago when we started using OneDrive and SharePoint more readily in the Agency. And we were really able to leverage those IT tools to do parallel reviews. And now we'll be able to quickly to the e-concurrence system in there and it's parallel review feature. And so that's part of the, I think, process simplification team's focus as well.

So I will say, to summarize, it's been very complementary. We were trying a lot of these things out and at the same time feeding the inputs to that team. And in the end, I think, where we came out are very closely aligned.

Margie, did you want to kind of talk about the overall?

MS. DOANE: Yes, if that's all right, Commissioner?

COMMISSIONER BARAN: Sure. Go ahead.

MS. DOANE: Okay. So, yes. So the answer to your question is it's not just for rulemaking. It is being used for policy papers. And
is there significant enough -- the good thing that came out of an SRM, and
they're affecting a large program area. So there is a significant enough policy
question.

There's alignment all the way up to the EEO's office, but it
could be just within an office. So the alignment is helping because it clarifies
issues upfront. And so we're seeing that this is leading to more expedited
decision-making because we understand the problems earlier in the process
and also we can get alignment more quickly so that less issues come up at
the end. That's the first thing.

Also by just sort of documenting the concurrence process in
this matrix, everybody can understand their role and understand how much
time they're going to have.

Even they put a time limit on me. Sometimes there's, like,
you know, the EDO gets two days. And so I know this thing is coming, and
I'll try to get it early on in some other form because I try to keep to the staff
schedule.

And we also try to make sure that we expedite more quickly
things that already got alignment in the beginning. So it's a work in progress,
but we're seeing this used throughout -- for significant so definitely policy
papers and rulemaking. And then I would say probably the best example,
Commissioner --

COMMISSIONER BARAN: Mm-hmm.

MS. DOANE: -- the recent example is the gas pipeline
issue where they used -- that wasn't a rulemaking but where they used all the
different tools like parallel concurrence and e-concurrence. And they used
the SharePoint site to really move that report along quickly but to get all of the
right people involved in the decision-making.

COMMISSIONER BARAN: Great. Well, let me follow-up

on a few of those things. There are a lot of good ideas there.

In terms of the parallel concurrence, I can see how that

would save quite a bit of time if people were reviewing things simultaneously.

How is that practice working? Is it saving time? Is it creating any challenges
to take that approach?

And I guess I could, maybe I'll ask June if she wants to

weigh in on kind of the rulemaking piece, hone a little bit on the rulemaking

concurrence process just to keep it kind of clear. And, obviously, Margie, if

you prefer to weigh in but, June, otherwise.

MS. DOANE: No, no, I wanted to say Annette. I wanted
to turn you to Annette, who has been the head of this concurrence process if

you --

COMMISSIONER BARAN: Annette is sitting behind you,

which is really hard, but that's fine.

MS. DOANE: I'm sorry. I didn't understand the room.

COMMISSIONER BARAN: That's okay.

MS. DOANE: But June is fine, too. They both have been

putting a lot of effort into this.

COMMISSIONER BARAN: I turn it over to you guys.

Who wants to talk about this?
MS. CAI: I can jump in a little bit and then maybe Annette could add on because I guess that we've been working closely together. So for us, the parallel concurrence has, I would say, been transformative. It's really made a huge impact.

And one thing that's really helped us is availability of these IT tools. You know, I look back to even a year and a half ago, we were still handwriting comments, scanning them, emailing them to each other, calling each other. I can't read the handwriting. I mean, that's really, you know, some of the true examples of what we were doing.

And then we started using these tools and we would put it out there. And now we have all the branch chiefs reviewing together, all the division directors reviewing together.

And it's also helping not just the time it takes, but also that they can kind of see each other's comments, and we don't have to, we being the rulemaking staff, have to work so hard to reconcile the comments.

Because I can, for example as a branch chief, I can see what the other branch chiefs are commenting on. And I can respond or I agree with their comments.

And now that saves me time from having to write.

So those are some of the tangible improvements we've seen with the parallel concurrence. And truly we were only able to do it because of the availability of these IT tools.

And so, again, we were doing this, you know, pretty early on, like a year, a year and a half ago. And then when the Agency transitioned to e-concurrence and it has the parallel concurrence feature, we were able to
really make that shift quickly because we were already operating in that way.

COMMISSIONER BARAN: Great. And it looks like based just on the slide, another practice is under the heading of need to concur.

I assume the idea here is to try to keep the concurrence chain as short as practical and reduce the number of individuals who need to review and sign off on a document.

How is the staff deciding who should be on the concurrence chain? Is that tough to figure out? And how is this approach working? Is the staff doing a good job identifying the right individuals? Are we seeing cases where people don’t end up weighing in, and it raises issues later?

MS. CAI: So I think this practice has been working pretty well. And I think there’s two main factors that are contributing to it.

First, we have been really making a concerted effort to make sure we have early alignment on rulemaking projects before we, you know, go down too far. Like I said, we have the decision tool so we’re making sure the key decision-makers, the key players, are coming in early and having open discussions, making sure we identify the path forward.

So during that early alignment, we make sure, okay, who are all the impacted parties who all have, you know, some input and make sure we’re engaging with them and then, of course, we would include them on concurrence.

The other piece is with this new Commission paper process enhancement, we do have to do the alignment, early alignment meetings with Margie. And so as part of that process, she mentioned the
We have to document clearly here are all the people who are going to concur and here's what their role is. So it's not just that they're concurring perhaps to the whole package, but they're looking at it, for example, from a legal perspective or editorial, you know, style perspective or only on this technical issue or only this other piece. So it's very clear what their role is.

And so at that alignment that we have with Margie at the outset of the project, we make sure we clearly document and include all the various parties.

So I think it's been working very well. And so we're able to hone in on exactly who needs to be on concurrence but in addition also specify what their roles are. And I think between those two pieces, it really helps us be more efficient.

I wanted to add one other piece. The alignment agreement does also have a section about awareness.

So a lot of times we do have a wider distribution network for our packages where we share documents with people for awareness or early engagement but not actually putting them on formal concurrence but that they do have, you know, an opportunity to take a look at it. And, of course, if they have any concerns that they have a chance to weigh in and give us their input.

COMMISSIONER BARAN: Great.

MS. VIETTI-COOK: I just want to mention, too.

COMMISSIONER BARAN: Sure.
MS. VIETTI-COOK: What's interesting, what we're observing -- even though we have limited data, what we're observing is that we're actually, even though we were encouraging collaboration with as many people as you need to and only put those people that you really feel need to be on concurrence and be thoughtful about it.

And, of course, like she said, we also encouraged, you know, courtesy reviews, provided for awareness to all those people that you've collaborated with. And if they did have an issue, wanted to review the paper, they could always go to the author. They could go to their branch chief. And they can always go to the differing views programs if they feel like they're not getting satisfaction.

But what we're observing is that we are seeing a big reduction in the concurrence time, but that we're not really seeing a huge drop in the number of people concurring.

So what we think is happening is number one, the alignment is helping move, you know, early alignment of expectations of what the stakeholders want to see in the product. And I think, you know, documentation of that and then, you know, so that -- and then realigning as necessary as new information becomes available but also the technology improvements, like all of the collaboration tools, you know, for sharing documents for, you know, collaborating over Teams.

We did templates so that they're all -- you know, these are all the questions you should be considering on data, on, you know, concurrence and all these various issues.
And, of course, we have templates for SECY papers and then there's the e-concurrence system. So it's really tracking and people can see how much time people are spending on concurrence. It's very visible to everybody.

So we actually have seen a 45 percent drop in the concurrence of the annual papers that we've been tracking. So we are seeing progress on the time. And it was an interesting observation that we really haven't seen the number of people getting reduced on the concurrence process. So we think it's these other things that are moving it along.

COMMISSIONER BARAN: Great. Well, I think it's great that the staff is trying some new tools and approaches in this area. It sounds like it's going well.

I think it's the kind of process improvement that has the potential to increase both the timeliness and the quality of the concurrence reviews. And that, of course, can increase the timeliness and quality of the rulemaking or the SECY papers which is what in the end has the real world benefit. So that's great. Thanks so much for walking me through that.

CHAIRMAN HANSON: Thank you. And now we'll take a five-minute break. We'll reconvene at 10:52 and, yes, thank you.

(Whereupon, the above-entitled matter went off the record at 10:47 a.m. and resumed at 10:52 a.m.)

CHAIRMAN HANSON: All right. Thank you, everyone.

The meeting will recommence now with the external panel. Each panelist will have about 8 minutes to present.
And we'll start with Reginald Mitchell, the Chief Financial Officer and Enterprise Risk Management Secretariat for the United States Agency for International Development.

Mr. Mitchell.

MR. MITCHELL: Yes. Good morning, Chairman and Commissioners. Thank you for the invitation to participate in today's briefing.

It is indeed a pleasure to be back before the Commission with an opportunity to share the U.S. Agency for International Development's journey in developing our risk appetite statement.

As the CFO, I serve as agency Enterprise Risk Management Secretariat, also referred to as the ERM Secretariat. And in this capacity, I lead the agency's ERM governance program.

As some of you know, USAID is the federal government's largest development agency working in partnership with international and humanitarian organizations, and we operate in over 100 countries worldwide. Our work requires our foreign service officers to work in remote and sometimes dangerous environments, delivering assistance: everything from food security programs, to fighting pandemics such as COVID-19.

As we develop our programming within a variety of country contexts, it is imperative for us to actively identify and manage our enterprise risk. Today I was asked to focus on the development, best practices, and use of USAID's risk appetite statement in our agency's day-to-day decision-making.

But before I begin, I'd like to, I think it would be helpful for
me to share a few moments to go over our ERM overarching governance framework which uses our risk appetite statement as a governing principle for managing risk.

Next slide, please.

Key to the success of the ERM program is an effective risk governance structure. With support and engagement from top leadership that reaches stakeholders and every employee within the agency.

As you can see on the chart, our framework is comprised of three levels, with the head of the agency at the top. What is important to note, is the framework is designed so that information flows in both directions, up and down the organization. I will start with the assessable unit, which we define as the roles of an organizational unit of the agency, which includes our missions overseas and independent offices, each with their own management controls on risk and internal controls.

Next is the bureau level, with each bureau having its own risk council, like the accessible units, and it's tasked with reviewing and evaluating aggregated data collected by missions and offices. Each bureau then determines which high-risk items will be forwarded to the next level in our ERM governance framework.

Our three agency councils are:

First, we have the Risk Management Council which covers programmatic risks identified by the bureau.

Second, we have the Senior Assessment Team, referred to as SAT, where SAT is responsible for financial risk, and financial-related
issues identified through internal controls, financial compliance assessments, and internal and external audits.

And, finally, we have the Executive Management Council for Risk and Internal Controls. We call it the EMCRIC, which receives input and recommendations from the Risk Management Council and the Senior Assessment Team on risk identification and mitigation for leadership consideration. The EMCRIC is chaired by our deputy administrator and the council makes final recommendation on risk adoption and mitigation strategies to the administrator.

Now let me go over our risk appetite statement. Next slide, please.

As previously mentioned, USAID works in very challenging environments and has vast experience managing risk. We are a highly decentralized organization due to the geographical footprint of the agency and the remote locations we operate within. We believe it was critically important to document the agency leadership's expectations related to identifying and managing enterprise risk.

The agency leadership provided broad-based guidance on the amount and type of risk AID is willing to accept based on evaluations of opportunities and threats at a high level and in key categories.

In addition, OMB Circular A-123 encourages the agency to develop a risk appetite statement as a high-level document that employees can make use of as they conduct their day-to-day activities. So, we began with a need-based analysis. We thought it was essential to develop formal
agency guidance to help staff identify where it made sense to encourage risk forward thinking, and to seize opportunities and where we needed a more risk-cautious approach.

We used a collaborative approach by establishing a core cross-functional working group with expertise in program development, operations, performance, and management. The group was overseen by agency leadership. The core group was primarily responsible for developing the seven categories we used to identify each type of risk.

We have in the agency our risk categories are: programmatic, fiduciary, reputational, legal, security, human capital, and information technology. Each category of risk was assigned an owner responsible for evaluating their assigned risk category. The owners made recommendations on the risk tolerance to the agency leadership for approval.

For example, I own the fiduciary risk category, and I provided a recommendation that all financial activity has a low tolerance level. However, I recommended a medium risk level be adopted when implementing our funding through our overseas partners.

Once we had our statement developed, we began our road show, and we briefed OMB and our Oversight Committee. Our statement was well received by both OMB and the Oversight Committee. As a matter of fact, as USAID was one of the early adopters of a risk appetite statement in the federal government, several agencies have reached out to us and asked that we share our development process.

As every organization is different and has a unique culture,
I encourage agencies to determine the culture that best fits their needs and here are some best practices for your consideration.

In addition to the strategic revision of policy and procedures, ERM requires significant change in agency culture and the fostering of internal and external partnerships.

As an institution, avoid being too risk averse. At USAID the risk appetite statement encourages us to be bolder in those areas where our tolerance for risk is high, for example, when seeking out new implementing development partnerships. But also remain vigilant in areas where risk tolerance is low, such as cyber security, financial, sexual abuse, and exploitation.

Next slide, please.

Our risk appetite statement is an integral component in our risk posture. As mentioned earlier, the risk appetite statement includes those categories, it also includes gradation of risk categories, that is high, medium, and low, to explain how each risk may be used in specific situations.

I would now like to share what we believe our best practices for socializing a risk appetite statement.

Next slide, please.

We operationalize the risk appetite statement by conducting agency-wide training on conceptual components of the risk appetite and our Enterprise Risk Management program. The administrator issues communications to all employees reiterating their responsibility for using the risk appetite statement when determining and managing risks in their daily work, and to encourage staff at all levels to get comfortable with taking risks.
When developing a risk appetite statement, agencies may want to assess what others have done when deciding on structure. For example, we surveyed other federal government agencies, state and local governments, and other international organizations. And we built on our expert knowledge and consulted the General Accountability Office ERM Playbook for applicability.

I would like to leave you with three thoughts on socializing a risk appetite statement we found specific to our success of its adoption, and that is:

- Educate the staff on identifying managing risk;
- Communicate to the staff a leadership commitment;
- And encourage the staff to be smart risk-takers.

Next slide.

In closing, I believe our risk appetite statement equips our staff with the capability of making better-informed decisions.

And, again, thank you for the opportunity to share USAID's risk appetite journey. This concludes my statement to the Commission.

CHAIRMAN HANSON: Thank you, Mr. Mitchell. It's great to have you back here at the NRC, even just for a little while this morning.

With that we'll move on to Ms. Teresa Gerton, President and CEO of the National Academy of Public Administration.

Ms. Gerton.

MS. GERTON: Good morning, Commissioners, I'm Terry Gerton, President of the National Academy of Public Administration. And I
am honored to represent the academy before you today.

Next slide, please.

Before I begin, I want to commend the breadth and progress of the NRC’s transformation efforts that I’ve heard about this morning. You all are already adopting critical aspects of the Agile government principles and demonstrated profound results.

In the interests of time, I will assume that you all are familiar with the National Academy of Public Administration. It’s one of only two congressionally chartered national academies. And I’ll jump right into the discussion of Agile government that you all have requested.

Next slide, please.

In November of 2019, when the Academy announced our 12 grant challenges in public administration, we also established the Agile Government Center as an enabler for the seminal concepts that would underlie any success against the grand challenges agenda. We knew that every major issue facing government would require an intergovernmental, intersectoral, and interagency approach to development, and that would require a new way of doing government business, would require more agility.

The Center itself is a partnership between the Academy and the IBM Center for the Business of Government. Over the past 18 months it has become a hub with the establishment of our Agile government network of organizations and individuals who are exploring the implementation of Agile principles in government programs around the world.

Next slide, please.
As you've already heard this morning, Agile is a new management paradigm. Compared to the sequential waterfall project, Agile is a very different way for projects to be accomplished. And if it's adapted for broader use, it's a different way for governments to operate.

Building on and understanding of Agile principles for software development and IT initiatives, and their incorporation by some federal agencies into their IT projects…

(voice distortion)

…organizations, and federal agencies themselves are now adopting and adapting the principles for their systems and applications.

This is driving changes in numerous federal IT software areas, and it's now increasingly common for federal agencies to use Agile for projects, especially for IT projects. However, it is much rarer for federal agencies to use Agile as a way of managing their organizations.

Next slide, please.

Through the research in cases promulgated by our Agile Government Center, the Academy has developed and shared 10 fundamental principles of Agile government. I won't read these to you, but you will recognize several, such as the empowering of staff members, or small teams doing work in multiple short periods of time, a critical focus on iteration and learning, and an early identification of risk is already operational within the NRC.

Far more important is the mental picture these principles create. Imagine a government organization at any level that practiced these
principles. It would be more focused on program outcomes and less on strict
compliance, with a deliberate approach to managing risk.

It would be open to engagement with partners across a
variety of boundaries, including with private and nonprofit sector partners,
without concern about who gets the credit.

It would be intent on learning quickly what works, measured
by both what its customers think and what the data says, and it would be open
to trying new solutions while accepting that failure often accompanies early
trials, and it would be an engaging place for its employees who are both sold
on the mission and empowered to seek creative solutions that encourage
mission accomplishment.

And with that compelling vision, we might ask ourselves why
don't we see more of this in the government?

Next slide, please.

You can already imagine some of the institutional stumbling
blocks to implement Agile approaches in government. For example, there
exists a general lack of knowledge and understanding about Agile. Many
people simply don't know what it is.

There's cultural and behavior barriers, like risk aversion, and
a perceived absence of permission to implement Agile principles.

And, third, there are real regulatory and procedural barriers
in contracting, hiring, oversight, and budgeting.

The Academy is currently developing a training module at
the Federal Executive Institute that will introduce federal leaders to the
concept of Agile government as a first step to addressing the knowledge and
culture challenges in implementing Agile. And we'll conduct our first class
next month.

Next slide, please.

The Academy's recent report on implementing Agile
principles in the federal government, which is linked on this slide, include
several recommendations to address these challenges more broadly.

First, we recommend that Agile should be a cornerstone of
the President's management agenda.

Second, it should be incorporated into existing cross-
agency performance goals, especially the goal to improve customer
experience with federal services. And ensure that Agile management is used
whenever appropriate for organizations, programs, and projects.

Third, we recommend that the General Services
Administration's Office of Government-wide Policy should assign or establish
an organizational unit designed to assist other departments and agencies with
their Agile management journey.

And, fourth, we recommend that the President's
Management Council coordinate across its member agencies to develop and
facilitate the implementation of strategies for accomplishing Agile-related
goals.

Next slide.

Making these proposals for implementation of Agile across
the federal government does not preclude any agency from taking up the Agile
challenge itself. The Academy's report offers readiness factors, and assessment tools for both organizations and individuals to determine how ready they are to embark on an Agile government transformation. They also document case studies of activities that have embraced agility in their projects, programs and organizations.

The concept of Agile government is catching on around the world, and we are excited to see the first embers of interest within the Biden administration. And we look forward to continuing to support this effort.

I'll be happy to answer any questions that you have on this topic. And I thank you for the opportunity to present it to you this morning.

CHAIRMAN HANSON: Thank you very much, Ms. Gerton.

Next we'll hear from Dr. Steven Simon, President and Founder, Culture Change Consultants, Incorporated.

DR. SIMON: Thank you.

CHAIRMAN HANSON: There we go.

MR. SIMON: Thank you.

CHAIRMAN HANSON: Even after a year of virtual communication. I appreciate it.

Thank you, Commissioner and to the Commission for the invitation to speak today.

So, some brief background so you know who I am and how I came to this topic of safety culture -- of culture transformation, and why I'm focusing specifically on safety culture.
I guess first is that I am proud to be a pioneer and, in fact, the originator of the concept of safety culture. In 1983 I coined the term "safety culture," and for the last 38 years have been working to develop approaches that show culture is the most powerful force to drive safe behavior and achieve breakthrough safe performance.

A second part of my background is that I have been a roll-up-your-sleeves culture change consultant, and have led transformation efforts at organizations, large organizations such as General Motors, GE, and numerous electric and gas utilities.

And I guess a third point of specific relevance is I am trained as a psychologist, so I approach culture and safety from the people side, not the technical.

So, one of the I think contributions I might be able to make today is lessons from, you know, my career in working with organizations who have attempted to change and in any case to successfully transform their safety cultures.

One of the real critical success factors for any approach to safety culture transformation -- this may seem obvious, but often it's not -- is actually to focus on the culture. There is in the safety field, as we all know, a default to go to programs. And I use a model to differentiate safety programs from safety culture to keep leadership focused in on the target.

Here's how it works.

I'd like you to imagine a pot of stew on the stove. Think of it as a safety stew. And the solid ingredients, the meat and potatoes,
vegetables, those are the programs that we use and, frankly, whether it's in safety or other areas. But if you're making a good stew, you get the best ingredients you can and then you have to drop it in something. The solid ingredients go in liquid, which is known as the broth.

And in this analogy, the broth is the culture and the programs, the meat and vegetable, are the solid ingredients.

I think the point is that you can have really excellent safety program ingredients, but if it's a rancid broth, it doesn't matter how good your sirloin is. And this goes whether it's for risk smart or whether it's for incident investigation, safety, job hazard analyses, and so forth.

In a broth or culture where there's good caring, good dignity, psychological safety, freedom to speak up, trust, obviously this is a two-factor theory, you get the most out of the program. The program and the culture work together.

In those cultures where you've got mistrust, lack of concern, focus on numbers over people, blame fixing, no management visibility and so forth, it doesn't matter how good the sirloin is, your program is, if it's in a rancid broth you don't get the benefits that you want.

So, I have found this model very useful in working with operational leaders who typically think that safety is the job of the Safety Department.

And in the compliance part, the development of programs certainly belongs to the experts, but the culture, the broth obviously is set by the marks of the leadership.
So, I want to share -- and if we can go to the Slide 4, the

safety culture maturity path -- I would like to, I would like to share a maturity

path that I think talks to -- and it's a few slides previous, if you don't mind.

One more. Thank you very much.

And this is a maturity path that I developed that identifies
different stages in the development of the safety culture. And it gives you a
bit of a metric for self-assessment on where any gaps might lie. As I look
back on the history of how the concept of safety culture has evolved in the last
almost four decades now, I do see five phases.

And I want to emphasize that this maturity model is not a
values model. Some models state your organization should proceed from a
reactive to a proactive culture, or beginning to a leading culture, or dependent
or independent, or an interdependent culture. And that's great. Those are
important values-based maturity paths.

But this much more, instead of providing a direction for what
kind of organization your -- sorry -- culture your organization should strive
towards has to do with how to get there. And the five levels each talk to what
I see as some of what might be missing or present in an organization's
development.

So, number one, back in the '80s, safety culture 1.0 was
establishing safety as a value. Obviously, NRC has had it from the very
beginning. Not every company, not every organization, many companies
created safety as a value for their annual reports. For many it was just lip
service. The key question for safety culture 1.0 and the values is, obviously,
whether the value is real. But it's also the safety vs. production value, which I know you deal with all the time.

Safety culture 2.0 is about leadership. The shadow of the leader impacts, and impacting behavior of employees.

In the '90s, just a bit of a historical maturity path, many consulting groups started to focus on the shadow that leaders cast, training of upper management, assessing development and so on. Only more recently has leadership been defined not only as upper management, but leaders at all levels which, of course, for a culture is critical.

Which leads to safety culture 3.0, which is grass roots engagement.

So, I would offer an effective safety culture cannot be driven just top down, but also needs to be driven from the bottom up as well. This has been true, of course, for the compliance aspects of safety, but even more true when it has to do with employees focusing on the cultural foundations of injury prevention.

To kind of paraphrase a commonly expressed meme, I think all culture is local and, yes, upper levels have to be -- of leadership have to be committed to safety with an urgent intensity.

But within that overall organizational concept -- context, what happens off shift, what happens when people are alone, I guess my favorite definition of safety culture is what happens when no one's watching. That's when the grass roots matter because they are the only ones that are there. And if they don't have control of their culture then you get safety culture
4.0, which is work group norms and the inevitable drift that comes in the way we do things around here.

We all have our policies and procedures. Safety culture 4.0 provides tools for the work group not only to look at its behavior, but also the invisible norms of the -- you know, that influence that, that behavior.

I would offer that very few organizations have gone past safety culture 1.0, 2.0, and 3.0. They've done the value. Some did leadership. Even some prepared engagement. Very few actually looked at the work group level when it comes to culture.

And that leads to safety culture 5.0, which I would, you know, even a layperson through the decades looking at the NRC would say you've been clear leaders in the term which is now called psychological safety. But, obviously, you know, going back a long way has to do with the speak-up culture, speaking up retaliation -- without retaliation. And that's something that is starting to gain more encouragement in industry in general.

So, I think that the point of this maturity model is for organizations to look at whether there are some areas that they are missing. I think the traditional focus, as I said, is on leadership. It's not only leadership but all levels.

Next slide, please.

I would also offer that engagement is not enough. And we're all in favor of employee engagement. You know, we all love apple pie, motherhood, the flag, and employee engagement. And employee engagement is critical but it is not enough. There has to be also a focus on
the norms that drive employee behavior, and a focus on culture and not just programs.

So, I think, finally -- next slide, please -- I would like to say from my standpoint as someone who's not been involved with the theory but with implementing change, you know, throughout my career, that the couple of lessons I've learned the biggest are that if you have the luxury of choice, implementing village by village is always better when it comes to culture, not programs, than enterprise-wide or systemwide or, you know, I'll just say systemwide, and in a single, even in a single plant, because each of the subcultures is so different. And I guess my mantras for change with culture work is it's different from program work. You go slow to go fast. You go small to go big because you want it to stick in the end.

And I think with that my time is up. And I appreciate the opportunity to share some of my lessons accumulated on safety culture transformation. And from having watched a lot of Senate hearings, I yield my time.

Thank you very much.

CHAIRMAN HANSON: Thank you, Dr. Simon.

Next we'll hear from Jeff Place, Executive Vice President for Strategy at the Institute for Nuclear Power Operations.

Mr. Place.

MR. PLACE: Good morning, Chairman and Commissioners.

Thank you for the privilege and the opportunity to discuss how new technology is leading to improvements in operational performance of our nuclear fleet.
I'm going to focus my remarks on two main topical areas.

First I'm going to provide a high level overview of some of the new technologies that nuclear stations are implementing.

And then, second, I will discuss how INPO is using technology to improve our support and oversight of the nuclear industry.

Next slide.

So, in the past few years we've seen an acceleration in the use of new technology, driven primarily by the efforts to improve safety and reliability, increase efficiency, and reduce costs. The list of improvements is extensive. And I'm only going to be able to highlight just a few today. And as such, the discussion that follows is not fully representative of all the efforts and activities across the nuclear fleet.

Use of robotics has a long history in our industry, but the advancement in their capabilities has led to many more applications. In general, robots greatly improve industrial and radiological safety, decrease the time to conduct the work, and increase the frequency of monitoring.

Some examples would include submersibles that can now support underwater intake system inspections without putting humans in harm's way. And the use of drones have drastically increased, both inside and outside the plant, including inside systems and also inside of containment while at power.

The use of digital sensors of all types is now widespread. Routing this data through software platforms has given engineers, operators, and managers key information to identify and sometimes predict equipment
degradation before failure occurs.

Artificial intelligence and machine learning are now beginning to be used to automate some knowledge work and tasks, specifically focused on asset management and equipment reliability. For example, some utilities are now using software applications to automate corrective action program and work order screening, to automate parts purchasing, intra-equipment anomaly detection. In these cases, the software is making initial classifications or decisions and the plant staff review and approve the classifications prior to taking action.

Training is also being enhanced by using virtual reality. We are just really beginning to tap into the use of this technology to enhance industrial safety, operations, and technical skills training.

To touch on just a few other uses of new technology, we're seeing the use of digital platforms to build electronic procedures and work packages. Some of these have embedded video and human error prevention tools. Digital 3-D printers are being used to build training mock-ups and produce replacement parts.

Overall, we're seeing a rapid adoption and expansion of new technologies. The industry is just beginning to learn from each other and understand all the applications in which technology can improve safety, reliability, and cost competitiveness.

Next slide.

Like the industry we support, INPO is using new technology to improve our work. Some of this work has been evolving over years, and
some of it has been accelerated because of the pandemic. And INPO leads
the National Academy for Nuclear Training. And through the Academy, we
conduct leadership courses and seminars for nuclear professionals from the
first line supervisor up to the board of directors.

When the pandemic hit, we were initially unable to carry out
this training, but our staff quickly began developing a virtual training platform
we refer to as VOLT, or Virtual Online Leadership Training. We began with
a few specific training modules, but we eventually fully converted some of our
one-week seminars into the virtual setting. The industry response has been
outstanding, and we've actually been able to reach individuals we would have
not otherwise had we done it just in person in the building in Atlanta.

While we are planning to return to face-to-face classrooms
later this year, we will continue to offer some of our course content virtually.

A longstanding role of INPO’s has been to facilitate the
sharing of operating experience across the industry. Recently we began
producing podcasts to share some of this information. Again, industry
feedback’s been very positive. People seem to like the more personal
approach of hearing people that were involved in the operating experience
giving their firsthand accounts.

We are currently working on other delivery methods to make
the operating experience more accessible in different formats and on different
platforms.

I'm going to now shift and discuss some fundamental
changes in ways we are monitoring and shaping industry performance.
The industry and INPO have long used indicators to compare performance, set targets, and drive performance improvements. Today, INPO collects between 700 and 800 datapoints and operating experience records every month. From this data, approximately 2,200 separate indicators are created, and about 200 of these are displayed on our member website.

Also, over the past four decades INPO has put teams of nuclear professionals onto the nuclear sites at about a two-year periodicity to conduct performance evaluations and peer reviews. An assessment of performance is provided after each evaluation.

While we have other operations and activities to monitor performance, we weren't satisfied with our ability to understand performance in between this two-year evaluation period, so we began developing a plant performance indicator that would give us a more current view on at least a quarterly basis.

To help us accomplish this view, we used neural network modeling techniques to find patterns between the indicators that correlate to performance assessment scores over time. Derived models are designed to think like our staff as they go about implementing the evaluation process. We are on our third iteration of this model.

The original model was a simple linear model. And the current one that utilizes neural modeling techniques is 96 percent accurate, with precision of plus or minus 3.5 points.
We further use these techniques to create neural models for
all 15 individual functional and cross-functional areas that INPO assesses as
part of our operations. The accuracy of these area models range anywhere
from 76 to 95 percent, with a precision of plus or minus 5 points.

None of our indicators or models fully substitute for onsite
evaluations, however, we do leverage the information from the models to
performance base our operations. For example, the composition of our
teams are adjusted in part based on this information. Our base team for an
INPO evaluation today is about six professionals. And then we augment that
team based on our review of performance through, in part, these models.

Our teams now typically range between 6 and 12 team
members, compared to a previous team size of 25 to 30. The result of our
evaluations have not suffered based on self-assessments that we have
conducted and feedback from the industry.

We are also using machine learning to advance new
models, some of which we are anticipating will be more predictive. A recent
area of focus for us and for the industry is understanding and measuring
sustainability of performance improvement. Currently, our staff draw
conclusions on sustainability through manual review of data, interviews, and
field observations.

As the staff collaborates and assigns numerical
assessments on their work platform, artificial intelligence and machine
learning software is running in the background, trying to replicate the results
by developing correlations between our data and indicators that will give
similar results. Our goal is to be able to be better at automating our view of sustainability, minimizing subjectivity, and reducing errors from new staff.

Next slide, please.

In wrapping up, I would say that the tools we've developed to date give us a more current, accurate, and complete picture of performance, and at a frequency that we did not have in the past. Using these tools, we've been able to redirect our resources where the industry needs them most. It's also been a catalyst for greater industry comparison and supports the industry's continuous learning culture.

However, we have more work to do to make better use of data science and advanced analytical techniques in support of our, INPO's, transition to a new operating model over the next year. We've seen a nearly constant slope of improvement in the industry over the past 8 years. By nearly all metrics, the industry is performing at near its highest levels ever. While there are many factors for this improvement, the use of new technology has certainly played an important part in increased operational performance and efficiency gains.

The graph in front of you today is actually a simple roll-up of the average of the neural plant performance indicator for the entire U.S. fleet. The industry as a whole passed into our exemplary range in early 2017 and has continued to improve.

Again, thank you for the opportunity to speak with you all this morning. And I will be happy to answer any questions you may have.

CHAIRMAN HANSON: Thank you, Mr. Place.
Commissioner Caputo.

COMMISSIONER CAPUTO: Good morning.

Mr. Place, I will stay with you for my first question.

So, for those not familiar with INPO, I'm just going to recap their mission: to promote the highest levels of safety and reliability, to promote excellence in the operation of commercial nuclear power plants.

And I'd like to ask you a little bit about INPO's indicator index, which I think you've also expanded on that by talking this morning about the Neural Performance Indicator Index, and stressed how the industry's safety performance has improved over time. And so, you know, among those many indicators that INPO tracks includes reactor performance, safety system performance, occupational safety, chemistry performance, and radiation exposure.

At our Commission meeting a couple weeks ago we discussed the declining trend of green findings and findings or are low safety significance. And while the NRC staff acknowledged the industry's improved safety performance, they attributed the declining trend in findings to staff's increased focus on risk significance.

So, my question is this: if we are a modern, risk-informed agency, shouldn't we expect to see a decline in findings if industry safety performance has improved? After all, if actual safety performance has improved but it's not reflected in the number of findings, that would suggest we're not risk-informed.

So, wouldn't the decline in findings be a logical outcome of
the combination of the agency’s risk-informing and the industry’s improved safety performance?

MR. PLACE: Yes, Commissioner, thank you for the question.

I don’t know if I can speak directly to, you know, the reasons why the number of green findings would be reduced, but I can share with you what we are seeing through the way we look at performance and how that may correlate to issues that would be of regulatory scrutiny.

As you know, we collect these operating experiences, and we call them events. And not all of them are of great significance, but we do characterize them. And we have different categories:

We have significant events, consequential events.

We’ve seen significant events in the last several years almost entirely eliminated. We just don’t see them.

Consequential events have been reduced by 50 percent from 2010 to 2020. Fuel reliability is amongst the best -- well, it is the best ever. SCRAMs are not complicated anymore.

And through our own evaluation process we’re not necessarily seeing a reduction in areas for improvement, which is what we like to help drive, identify and drive closure of gaps we see in the industry. But what we are seeing is that they’re written at a different threshold. We’ve lowered the threshold. So we’re seeing many more of our gaps or our areas for improvement written at the behavior level before real consequence has occurred.
And so I think, you know, you roll those types of things up and I think that it's possible that that would also mean that there's probably more things -- less things that are happening in the power plant that would be viewed under regulatory scrutiny that may result in a green finding or other findings.

COMMISSIONER CAPUTO: Okay. Thank you very much.

Ms. Gerton, I have a question for you.

Getting staff to set and track outcome-based metrics is a challenge. There is a constant temptation to set the bar low, to set the bar at something that you know will be accomplished, thereby guaranteeing success when, in reality it's ensuring business as usual under the aura of a shiny new program.

So, whether it's our current evidence-based policymaking effort currently underway, or the Agile method that you discussed, the ultimate question is how do we get employees to embrace and use these strategies to drive performance improvement rather than simply going through the motions?

MS. GERTON: Thank you, Commissioner, that's a great question.

One of the key aspects for setting good outcome measures is good data collection. And, frankly, you don't always get the outcome measures set exactly right on the first time. But as you begin to collect data about your processes and your outcomes, you begin to see the trends and you begin to see the gaps where performance can be improved.
So, it’s a leadership challenge as well as a data collection effort. But as you begin to monitor, even if you set those first metrics and they give you 100 percent mission accomplishment, the next thing you need to think about is, well, how do we, how do we extend ourselves and how do we take a bit more risk to get better performance? And as you begin to do that and you begin to see performance improvements over time, you begin to tighten those metrics so that they continue to push you to improve outcomes.

And as the staff sees that and as they begin to perceive the improved performance, and likely what goes along with that is improved customer satisfaction or improved mission delivery, they begin to buy into the process.

So, if you’re just new to setting performance metrics, it’s not necessarily a bad thing to set them and understand how your data tracks and informs your performance and how you measure it. But over time, with the staff and the leadership support you begin to collect better data, you have a better understanding of your processes and how they impact your outcomes, and you could begin to fine tune those data so that they continue to drive increased performance.

COMMISSIONER CAPUTO: All right. Thank you very much.

One last question for Mr. Mitchell.

You stress the need to manage risk holistically. And you listed fiduciary risk as a category for enterprise risk management. Can I just get you to clarify, is that strictly limited to, you know, internal controls and
auditing? Or do you also look at risk in terms of budget formulation and execution?

MR. MITCHELL: Thank you, Commissioner, for the question. Yes, it's the latter. We do look at it holistically, not just the execution side of the house, but budgeting and execution. And when we look at our partnerships that we developed in implementing our programs, that's a fiduciary risk as well because of the actors that we come across and oversee your arena.

COMMISSIONER CAPUTO: So, I mentioned this a little bit earlier, but in 2016 we collected 320 million in fees for licensing and oversight work. In 2021 this workload is down 45 percent. That means our work went from being 31 percent of our total budget to only being 21 percent of our total budget.

How important is data-driven decision making to anticipating and managing risk in budget formulation?

MR. MITCHELL: From my perspective it's very important. When you look at you're setting a budget, you're setting a budget to complete a certain program with certain objectives. And those objectives will always be impacted by the funding that you are able to obtain to meet the stated goals.

So, again, if you don't factor in the risk that you are taking on from a holistic perspective of the environment that you operate within, understand the external risk, meaning that stakeholders, which is both of ours,
Congress and OMB, then you do, you risk, not being able to get the funding you need to carry out your program because you didn't take adequate notice of what are the risks that you have to be able to navigate in order to get the funding that you need to do your work.

COMMISSIONER CAPUTO: Thank you very much for joining us today. That's it for my questions.

CHAIRMAN HANSON: Commissioner Wright.

COMMISSIONER WRIGHT: Thank you very much, Mr. Chairman.

Reggie, I'm going to stay with you for a minute. Thank you for your discussion and your comments here recently here with Commissioner Caputo on best practices and, you know, when you're looking at risk appetites. So, you mentioned the need to foster partnerships, both externally and internally. And I'm trying to understand that a little bit more.

I am familiar with USAID, and have worked with them when I was a member of the state economic regulators through NARUC, the National Association of Regulatory Utility Commissioners. So I'm familiar with what you do.

But can you tell me, talk to me a little bit more about some of the external, I guess, partnerships that you fostered and how those partnerships have impacted your practices in this area?

MR. MITCHELL: Certainly. Thank you for the question, Commissioner.

A couple of the external partnerships that I'm alluding to is
like the U.N. We do a number of partnerships with the U.N. on a variety of different programs that we have like interests in.

We also partner with our NGOs and other implementing partners on getting perspectives from them on risk and what they're involved with. As you probably know, Commissioner, most of our work is performed by implementing partners, whether that's governmental, whether private sector, other public entities such as the U.N.

And when we went through our process of developing our risk profile we solicited their perspective from where they sit and tried to incorporate that into our thinking on, you know, the risks in these different perspective areas so that we could pass that on down to the staff level.

But as relates to the external stakeholders, that's what I was alluding: primarily Congress, OMB, the U.N., and others.

COMMISSIONER WRIGHT: All right, thank you.

So, the NRC's reputation as the gold standard for nuclear safety, that's at the heart of who we are and how we do our work. And our reputation as a safety regulator is sometimes questioned by members of the public and other stakeholders when we change our processes and procedures and, you know, because there's a fear that we may be reducing safety or something.

So, can you talk to me about how, if at all, reputational risk plays into your risk appetite model, and what advice you'd give to the NRC on this point?

MR. MITCHELL: Certainly. Again, I guess I spent about 26
years at the Nuclear Regulatory Commission, so I'm somewhat present, although it's dated now. But I am familiar with the reputational challenges that we had early on as well, and then how we got to where you're at today.

When it comes to USAID, we deal with a lot of actors. Okay? And some of these actors are not good actors. Okay? And but we may not know that until after the fact. So, we have to deal with sexual exploitation. We have to deal with fraudulent claims. We have to deal with strategies where some of our workers are targeted and sought after by these bad actors.

So, when you're operating in the international development area, there's a lot of money, as you well know, coming through USAID and being put, placed into implementing partners and governments, the host governments that we work with. And we constantly have to, you know, put up the barriers to make sure that we have the internal controls and other mitigating, you know, strategies in place so that we are able to catch any bad actors, you know, early on.

And when we don't, it hits the Washington Post. And constantly that's one of the things I always tell my administrator: my job is to keep you out of the Washington Post on the financial side of the house.

(Laughter.)

COMMISSIONER WRIGHT: Gotcha. Thank you.

So, Ms. Gerton, I'm going to come to you. So, thank you for your presentation and for your work in this area.

You know, on the first panel we heard about the application
of Agile to our rulemaking process. And on one of your slides you listed some implementation issues and challenges with applying Agile. As we, as the NRC starts to use this process more broadly, what do you see as key actions we could take to avoid those challenges?

MS. GERTON: Well, thank you, Commissioner. And I was really excited to hear about the work in Agile regulation. And the Academy's getting ready to start a government-wide project this fall that will look at better ways to apply Agile to the regulatory process because we know that it is very challenging to keep up with changes in, especially in the scientific environment.

So, as you're thinking about changing your internal process, especially in the rulemaking, a couple of things you want to keep in mind. Advertising this effort to a broader staff than just those who are engaged in the rulemaking transformation is important to building agency-wide consensus.

And I think it gets to your earlier point about reputation.

One of the key principles of Agile is customer experience. And so, engaging your stakeholders to communicate how you're working this, being very transparent in the results of the rulemaking process changes themselves, taking small bites at it so you're demonstrating progress in a very positive way, and then continuing to demonstrate through the outcome measures that we talked about earlier that you are in fact improving safety, and improving operations, rather than introducing risk into the system. All of those key pieces of the Agile framework I think fit exactly what you're trying to
do here in the Agile regulatory transformation:

Engaging your staff so that they broadly understand what you're taking on; engaging your customers or stakeholders so that they understand you're taking small bites at the process so that the changes can be easily understood, and that the implications of those changes can be understood; and then being very transparent in the impact so that you continue to buy into the process, demonstrate change and over time you build a pretty comprehensive transformation into the process. It sounds like you're already well on your way.

COMMISSIONER WRIGHT: Thank you so much for your answer.

So Jeff, I'm going to come to you in some of the time I've got left. And I want to just, I want to thank Commissioner Caputo for her questions to you and comments.

Nobody wants an unsafe plant. And as licensees out there and nuclear operators, you know, in the industry it's important for them to be safe, and reliable, and up and running. And so the things that you're doing and the way that INPO is peer reviewing, it's been, it's been interesting to watch over the last, you know, 8 or 10 years just how things have moved up the scale, as you showed.

And you're trying to do a lot of things, right? I mean, you're trying to do a lot of new technology and things that maybe some of those things are going to require some type of regulatory hurdle to be jumped.

So, in those -- I'm going to go to just kind of combine two
questions, if I could.

Are there any other applications of advanced analytics that the industry is considering? And do you see any potential technological or regulatory hurdles to more broadly adopt some of these technologies?

CHAIRMAN HANSON: Sorry, Mr. Place, I think you're on mute.

MR. PLACE: I beg your pardon.

Yes, Commissioner, thank you for the question. I think as an industry we really are at the beginning of just being able to use advanced analytics. I know there's a number of projects right now that our utilities are working with national labs on other new ways to digest the data.

I mean, as we have digital sensors that are beginning to be put in the plant, there's discussion about making decisions and making decision trees based off of the vibrations and temperatures and flows that these sensors now, you know, you used to be able to take an individual, an operator to go out into the plant and take these readings. And now even analog gauges are being able to be digitized and then almost on real-time basis understand what's going on in the plant.

So, there's discussion about robotics, to be able to even maybe do operator rounds.

So, I definitely would envision that there's going to be many discussions to have to have with regulators.

Do I know if there's any specific hurdles right now? I don't.

I think the regulatory framework is there for those discussions to be had. I
think they're just going to require very open, transparent, and good
conversations with the regulators to get to an efficient decision point so things,
so decisions can be made and improvements being put into the plants.

COMMISSIONER WRIGHT: Okay. Thank you so much,
Mr. Chairman. My time is up.

CHAIRMAN HANSON: Commissioner Baran.

Oh, sorry, it's my turn next. I was jumping ahead.

Skipped myself. Sorry.

Ms. Gerton, let me start with you.

I was introduced to this idea of agility in government a
couple of years ago in my interactions with the National Nuclear Security
Administration and their efforts to develop what they were calling at the time
a more agile and responsive stockpile management and development system
for our nuclear weapons complex.

And the way they wanted to do that was to create a program
in which they were exercising certain capabilities within the weapons complex
on a regular basis so that, if needed, that is, in order to respond to
technological, or geopolitical, or policy contingencies, that they could be able
to respond and implement changes in a relatively rapid fashion. Right? This
is another industry that's focused on safety, has long time horizons, extremely
expensive, all things that we could also say potentially about the nuclear
industry.

But what was striking to me at the time was that this what
they called the Stockpile Responsiveness Program was in addition to the other
things that they were doing. That is, it was an added cost.

And I'm wondering, in your case studies around Agile
government are you seeing this as a -- are you seeing Agile efforts, or efforts
to become more agile as it were, as adds? And how are agencies kind of
financing or budgeting for these things?

Are they doing it within existing capabilities? Or are they
special initiatives that require additional budgets, or, or what?

MS. GERTON: Thank you, Commissioner. That's a great
question, and you may know that the Academy just recently completed a five-
year congressionally-directed assessment of NNSA and its various programs.
And so we're very familiar with the program that you mentioned.

But your broader question is does it cost more to do Agile, I
think.

CHAIRMAN HANSON: Yes.

MS. GERTON: And, in truth, what we see in the early
efforts is Agile is often a response to crisis, and you can see that in some of
the programs that the U.S. Digital Service has been called in to fix. And so
the question about cost is relative to what? Is it more expensive relative to a
system failure? Is it more expensive relative to a crisis in service delivery?

And so I would say, in those cases, it's really not. It's taking
the assets that you currently have and thinking about a new way to solve a
problem. So you're using people, you're using the tools that you have, and
you may be developing new tools. A lot of times we see the need to develop
a new IT system as the camel's nose under the tent in Agile implementation
because those new IT systems, which are typically focused on better service
delivery and better customer satisfaction or more security, drive with them
changes in process. And that begins to get people oriented to a more
iterative form of project improvement.

And so, over time, certainly the Agile processes come to
replace and be more efficient and productive than your old processes, but
there may be a period of time initially where you are incurring cost because
you are bringing in a new capability, often through IT systems, to the challenge
at hand or you’re repairing or fixing a crisis where new tools and investment
are necessary. But as you begin to build those Agile intuitions and Agile
processes within your organization, you should, in fact, over time actually find
that you’re reducing cost because you’re delivering better service, your
customers are happier, and your people are more in a mode of constantly
improving using the resources that they have to deliver services better.

And so I guess I would say there may be a period of time
where you may see some increased costs in implementation, over time it
should streamline your operations and actually improve your cost delivery
model.

CHAIRMAN HANSON: Thank you. That's super
interesting. In fact, you kind of anticipated my next question, and you may
have answered it already but I'll ask it anyway. And that was kind of, and you
touched on this, and what's the role of IT or IT investments in the overall ability
of agencies to adopt an Agile framework? And are there elements of IT that
you think are most important? So, for instance, knowledge management
and/or data warehousing or mobile technology or collaboration tools or advanced computing, et cetera. Kind of what are you seeing out there in other agencies?

MS. GERTON: Another great question. I think one of the places where we see IT driving Agile practices immediately, and you can see it over the past 18 months in response to the pandemic, is as organizations focus on their customer, we might think of the IRS and how they have delivered a massive increase in stimulus checks to individuals and corporations. You might think of how DMVs are saying, well, we can't do driver testing and we can't renew driver's licenses in person, so what are we going to do? As they focus on better customer service, whether that is an improved website, whether that's improved data collection so that there's a single-user sign-on. There are a variety of ways. But that kind of IT implementation where it's customer facing has been the most powerful in driving Agile behavior because it changes how organizations think and it changes how quickly they feel like they need to respond to changes in customer demand.

I think the second most important piece of IT revolves around data collection, data warehousing, and data analytics. You can't do enterprise risk management without a really solid data system and data management process. You can't do it without good data analytics so that you're collecting the right data and using it to track your trend.

So as organizations are -- sometimes, it's very different to implement an Agile culture change from the front-end, right? Inviting people
through the door to Agile doesn't necessarily motivate them. But going at it from the back-end, which is putting in IT systems that are addressing operational concerns and improving mission accomplishments can often begin to inspire that kind of Agile behavior where a little ways down the road a leader can't say, well, you weren't really interested in Agile, you know, on the surface, but look at what we've done already in how Agile is improving how we deliver our services and meet our customers' needs. Now let's take it to the next level and be very intentional about our next and broader implementation of Agile.

So those would be the two places in IT that I would say are really driving change: customer focus and data warehousing and analytics.

CHAIRMAN HANSON: Thank you very much. And I think, once again, you've kind of anticipated my next question. But my question, actually, for Mr. Place. And I was very interested in your presentation about technology adoption. We've gone through this, I think, during the public health emergency, as well in the NRC, where we had, you know, made some investments, and I think the public health emergency in a lot of ways accelerated the leveraging of those adoptions in a serious way, everything from mobile computing and collaboration tools to, actually, like the podcast that Alysia Bone does. You were talking about podcasts as a great way to transmit culture and knowledge throughout an organization. I think we've found the same thing here.

But it does, for me, kind of raise the question of do you have suggestions for how an agency like NRC can systematically evaluate and
potentially invest in and/or potentially adopt and continue down the path of innovation in this area without kind of the pandemic prompt, if you will.

You're on mute again, Mr. Place.

MR. PLACE: I apologize. Chairman, we started an innovation group, actually, several years ago, and that group, which is made up of individuals, we've made purposeful decisions to run every one of our operations through that innovation group. So all of our major operations, we put a strategy in place, and we don't see that ending. So we've undertaken that. We're in the process of developing a new operating model beginning at the end of this year. We're putting a new ten-year strategy in place.

All of those things are driving us to continue to go back to this innovation group. We don't have to use all pieces and parts of the innovation. That's just one of the things we've had to do. You know, Dr. Simon talked about culture, and we've had to adjust our culture because, you know, we're very conservative, like the nuclear industry is in general. And at first, everybody thought, well, everything had to go through all five parts of the innovation process. Well, no, it doesn't based on what it is you're looking to change, you know, how far you want to make those changes.

So that's very much part of how we do business now. And then we engage the industry, as you know. We are the self-regulation arm, I guess, or group for the industry, so we engage them along every one of these changes to make sure that we are not taking on more risk than they're willing for us to take. Also, in some cases, they push us to take risks, and we may have to go back and forth and collaborate, and we make a final decision that,
no, we're not going to make that change.

But it's really constantly, through our strategy, pushing things back through that innovation process.


COMMISSIONER BARAN: Well, thank you all for joining us and for sharing your thoughts. I think it's been a good discussion.

I have a couple of big-picture questions that I'd like to pose to the whole panel and invite anyone who has thoughts to weigh in. The first is about innovation. Obviously, innovation is a good thing and we want to foster a culture of innovation at the agency so that we're looking for and open to better ways of doing our work. Of course, some balance with stability is necessary. I think Margie alluded to this earlier in her comments. If the staff is constantly in a state of churn or continuous change, it can be hard for them to keep their footing and remain focused. And if our approaches and expectations are constantly in flux, there could be a lack of predictability and stability for regulated entities and other interested stakeholders.

Does anyone on the panel have thoughts about how to strike this balance between encouraging innovation while maintaining a reasonable level of stability for the NRC staff and external stakeholders?

MS. GERTON: I'll take a first crack, if I could.

COMMISSIONER BARAN: Please.

MS. GERTON: One of the things that we strongly suggest that agencies who are embarking on any kind of Agile project do as a first step
is engage their oversight community. You all are an oversight and regulatory
agency yourself, but you have inspectors general, you have auditors, you have
a variety of folks in the community who are interested in oversight of your
operation. And we all know that oversight agencies are heavily invested in
stability and status quo.

So one of the ways to strike this balance is to engage your
oversight community with your transformation team or your Agile project team
to make sure that, as you are moving toward Agile, the oversight community
is there to go along with you and say we can push that far, but we're not
comfortable going farther than that, that there are some boundaries that the
oversight community may not be ready to breach in a first or second or even
third round of Agile transformation.

When you do that, that also helps address the concern on
your staff that you might be pushing too much transformation too quickly. If
the oversight community is along for the ride with you, that can oftentimes
allay some fears amongst the community that would prefer more stability
while, at the same time, you're doing the iterative learning and transformation
projects as you go.

So that's one method that we have identified about how to
manage that tension between innovation and stability, both within your
workforce and in your impacted community.

COMMISSIONER BARAN: Thank you very much. Any
other thoughts on that? I know it's a big --

MR. PLACE: Commissioner Baran, I would just add on to
what Ms. Gerton said. I think the advisory board or advisory groups, we put those in place and it's a mixture of internal and external people. I think that helps.

One of the things that we've begun or we're beginning to do in the industry, the licensee does quite a bit, especially when they're in high levels of change, they use pulse surveys. They don't wait until an annual survey to understand what's going on in the organization. And so much more frequent pulse surveys, sometimes even weekly, dependent on the rate of change and what's going on can help give you a picture if it's too much.

COMMISSIONER BARAN: Great.

MR. SIMON: And, Commissioner, if I may, I would jump in also just adding on. It's axiomatic but it's worth restating anyway that this sort of challenge for whether it's balancing out innovation and people's resistance to change or any other part, any other focus of culture change, to the degree that you can establish grassroots teams all across the system that are engaged in driving it, it's obviously going to go better and, often, that's the first thing that goes. Just wanted to mention that.

COMMISSIONER BARAN: Great. Thanks. Another high-level question I'd be interested in your thoughts about is about how talk about risk and risk appetite. Because NRC is a public health and safety regulator, we talk about risk in the context of radiological risk every day. Our core mission is to keep those risks very low.

The Be SMART risk initiative, on the other hand, is more focused on how we consider all kinds of risks in our day-to-day decision-
making on corporate support projects or hiring or legal strategies or
rulemaking approaches. In that context, we want to be open to trying new
things and maybe taking a chance on a new process or approach that may be
an improvement over how we've traditionally done things.

Do any of you have any advice on how we can avoid
conflating these concepts so that we're clear that the agency is not interested
in accepting increased radiological risk on behalf of the American public.
Maybe Dr. Simon is the place to start on this question but, others, I'm
interested in your thoughts, too.

MR. SIMON: Let me go second on this, if I may.

COMMISSIONER BARAN: Fair enough.

(Laughter.)

COMMISSIONER BARAN: Of course, that requires
someone else to go first.

MR. MITCHELL: Let me just jump in, Commissioner.

Thank you for the question. Yes, I think it's one of, you know, laying down a
framework that clearly stipulates, you know, when you're looking at risk and
how you're looking at that risk. You're absolutely correct. I don't think
anyone on this panel or on this call wants the NRC to relax or take
unnecessary risks with nuclear power. That's a given. But when you look at
the whole aspect of the other part that makes up the entity NRC, then you
have to bring it in and conduct findings with respect to when you're looking at
the socialization and you've got four different generations working in the
workforce and you've got some generations that want to be out there and
doing new stuff and you got generations such as myself that, you know, kind of slow on the uptake.

So my perspective is, you know, by clearly setting up a framework to understand that, when you're talking about technical risk in and of itself and the analysis and all the other aspects that you deal with in the risk of a nuclear power plant, you know, that's one form of risk and that's a technical risk that you're going to work and a health risk. But then when you deal about the agency itself and is it open, does it allow collaboration, does it include inclusion with staff up and down the organization.

COMMISSIONER BARAN: Thanks.

MR. SIMON: Yes. And the only thing I think I would add to that is, look, I think most culture change efforts fail because they're too big, they're too broad. And everybody wants to look at the culture and identify ten things that need to change and, you know, go to work on it.

The focus, I often think putting something in the bullseye, one part of the culture, and then working it up and down and across. And I don't, frankly, think it makes too much difference if it's an agency change or if it's a plant change. You know, the principles are the same. It just doesn't have to do with the procedures and the tasks and the models and the programs. It has to do only with the people, and it has to do with engaging everybody, you know, from bottom-up to top-down.

But most important, it has to do with workgroup norms. And this, to me, I work in a couple of nuclear plants, you know, safety in plants is so much better than almost anywhere else in industry and the attention, the
focus, the understanding of culture, it's just terrific. But workgroups are where it, you know, the battle is won or lost. You know, you go out on the highway. It says 65 miles an hour. What do we drive? You know, we don't follow the policy. You know, we drive 75 or 72. If you're driving 75 in a 65 mile-an-hour zone, are you following the law or are you breaking the law? You are breaking the law, but I would offer your following the most important laws that govern behavior which is the norms of the group. And don't take this to driver's court. You know, I tried once, and the judge threw me out and doubled my fine. But, you know, until you get the workgroup itself working on that drift, you know, you can have all the procedures and training that you want. They learn it in the training center, and then they go and they pick up what's done in the workgroup.

So I think this is true of innovation, I think this is true with risk, I think it's true with all programs. But I'm just, you know, kind of putting that blanket around it, you know, hoping that gives a little bit of a framework from the people's side of the transformation.

COMMISSIONER BARAN: Great. Thanks. Well, maybe I'll just leave it there, Chairman. Thank you. Thanks so much, everyone.

CHAIRMAN HANSON: Thanks very much to our external panel. Mr. Mitchell and Ms. Gerton, Dr. Simon, Mr. Place, really appreciate your contributions today. I thought it was a great way to kind of follow-up the staff panel. Obviously, it touched on many of the themes. So thanks to SECY for pulling all this together for us this morning.
As we wrap up, I want to take a moment to recognize Commissioner Caputo. This is her final public meeting, as the end of her current term is quickly approaching. Thank you, Commissioner, for your years of dedicated service to our agency, not just over the last three years but also working as congressional staff and in the industry. The NRC has greatly benefitted from your extensive knowledge and experience in nuclear energy policy, obviously even before you came here. And I have no doubt that you will continue to be involved in our important work in one form or another going forward.

And in that spirit, this isn't a goodbye but, rather, a recognition of your work over the years and a sincere expression of thanks.

COMMISSIONER CAPUTO: Thank you very much, Mr. Chairman.

COMMISSIONER BARAN: Well, let me just add all the best of luck in all your future endeavors, whether at NRC or elsewhere. All the best.

COMMISSIONER WRIGHT: Commissioner Caputo, or Annie, as I've known you over the years, you know, I first met you sometime back, I don't know, '05 - '06 time frame, I think, when I was an economic regulator and you were working for your bosses on the Hill or the committees at the time working the issues of the day. You've always been passionate about everything that you've done, whether it be on the Hill or be it here at the NRC.

And, you know, during the last three years, I've gotten the
opportunity to get to know you on a personal level, get to know your family, and I've learned that you're more passionate about your family than you are about anything that we're doing here. And the things that you have done that you're also, you know, you love the outdoors, and I've discovered just how talented you are at quilting. I never met someone who really knows that like you do.

You know, I'm a very hopeful man, and so I'm hopeful that our professional and personal relationship here will continue for many years to come. So wish you the best.

COMMISSIONER CAPUTO: Thank you. Thanks to each of you for your very kind remarks. During my time here, I have worked with all of you and earned a huge measure of respect for each of my colleagues and learned a lot from each of you in terms of how committed you are and dedicated to your job and the talents and skills that you bring to it.

And I also, you know, I think we all get spoiled to a certain extent. We have the most talented staff here at the NRC, and I really have developed a huge respect for the staff in ways that I didn't have in my previous capacities and have relished working with them during my time here.

So thanks again to each of my colleagues, and thanks again to Chairman Hanson for his leadership over the last several months. I've appreciated working with all of you, and I've definitely enjoyed my time here.

Thank you.

CHAIRMAN HANSON: Thank you. Thank you all. We're adjourned.
(Whereupon, the above-entitled matter went off the record at 12:15 p.m.)