

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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35TH REGULATORY INFORMATION CONFERENCE (RIC)

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COMMISSIONER CROWELL PLENARY

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WEDNESDAY,

MARCH 15, 2023

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The Plenary Session convened at the
Bethesda North Marriott Hotel and Conference
Center, located at 5701 Marinelli Road, North
Bethesda, Maryland and via Videoconference, at 9:15
a.m. EDT, the Honorable Bradley R. Crowell,
Commissioner, NRC, presiding.

PRESENT:

BRADLEY R. CROWELL, Commissioner, NRC

ANDREA VEIL, Director, Office of Nuclear Reactor
Regulation, NRC

P-R-O-C-E-E-D-I-N-G-S

9:16 a.m.

MS. VEIL: All right. It is my distinct honor to introduce the final Commission Plenary and our newest Commissioner. The Honorable Bradley R. Crowell was sworn in as a Commissioner of the U.S. Nuclear Regulatory Commission on August 26th, 2022, and is currently serving the remainder of a five-year term ending June 30th, 2027.

Commissioner Crowell has more than 20 years of experience in the fields of energy, environment, natural resources, climate change, and national security including executive leadership positions in the federal and state government. Prior to beginning his tenure as Commissioner he served as Director of the Nevada Department of Conservation and Natural Resources as an Assistant Secretary of the U.S. Department of Energy.

Please welcome Commissioner Crowell.

COMMISSIONER CROWELL: Thank you, Andrea. So, as the fifth and final Commissioner to speak at the conference, I'm going to go off script here a little bit at the beginning, taking that liberty.

I wanted to let you know that one of the big differences for me pre-COVID versus post-COVID is

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I now have to wear reading glasses, but I'm going to try to do the speech without my glasses. And I may or may not be successful, so bear with me.

(Laughter.)

COMMISSIONER CROWELL: Second, despite the fact that Commissioner Caputo and I ran into each other late last night in the office as we were putting -- making changes and putting finishing touches on our remarks, we had not discussed the content of our remarks at all, but I too am going to talk with the theme of, what does success look like? And she stole my joke.

(Laughter.)

COMMISSIONER CROWELL: So another difference for me pre- versus post-COVID is that I'm now a father and I'm full of bad jokes and I'm going to attempt to insert one. So again, bear with me, and charitable laughter is appreciated.

So, with that, again, Andrea, thank you for the very nice introduction. I'm delighted to be here today with so many distinguished guests at the Nuclear Regulatory Commission's 2023 Regulatory Information Conference, otherwise known as the RIC. In this conference, NRC has once again gathered nuclear professionals involved in the safe and secure

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use of nuclear energy and other uses of radioactive materials.

While this is my first RIC, I appreciate that for 35 years now the NRC has hosted this meeting, a diverse gathering of professionals from the NRC, other government agencies, non-governmental organizations, academia, and industry, all to discuss topics of mutual interest.

I'd also like to extend a special welcome and thank you to our international partners participating in this conference, both in person and virtually. It is my distinct privilege to address all of you today.

So, I'm told that the RIC has a history of good humor, and we're getting back to it this year after a pause from humor during the COVID pandemic. Humor is difficult in a virtual setting, so again for those attending virtually, bear with us here.

I'll offer you this: If you disagree with some or all of my remarks today, or if I make any factual areas, it's not my fault. I used ChatGPT to write my speech.

(Laughter.) COMMISSIONER CROWELL: Ahhh, Commissioner Caputo. Our offices adjoin and I'll have to see if there's a hole in the wall or a

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listening device, because this wasn't even that good of a joke to steal, but here we are.

(Laughter.)

COMMISSIONER CROWELL: So I'll fall back on my other joke and try to spin it into something positive. I'd like to say that the only reason NRC Commissioners' offices have a private bathroom in the office is so that you don't create a quorum in the men's room.

(Laughter.)

COMMISSIONER CROWELL: Happens to be true. Also, it is a valid commentary on a statement Commissioner Caputo raised of the need for diversity from top to bottom, from bottom to top, at the agency. So, while humorous, it's also something we need to address. And I appreciate the charitable laughs.

All right. Back to the script. As many of you know, I'm the last NRC Commissioner to offer a plenary speech at this year's RIC because I'm the newest member of the Commission. As Andrea mentioned, I began my tenure on the Commission late -- in late August of last year. I was honored to navigate the Senate confirmation process in tandem with my colleague Commissioner Caputo, who has returned to service on the Commission. And I'd like

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to express my deep appreciation to all of my fellow Commissioners for their guidance and insights as I've settled into my role on the Commission over the last six months.

Thank you.

I will also take a moment to introduce to you my staff, my A Team, for those who haven't had a chance to meet them yet. Candice Trummell is my chief of staff and is a friend and colleague from my time at the Department of Energy. Maxine Keefe is my legal counsel. Dave Brown is my technical assistant for materials. And Janet Lepre is my executive assistant. Brian Anderson, who recently retired from the agency, was my reactor TA. And I am now looking to fill that spot, but one hurdle at a time. So I'll get through today hopefully first. I cannot overstate my gratitude for the professionalism of my staff, their expertise, and perhaps more importantly their tireless enthusiasm and support.

So the title of this year's RIC, Navigating the Nuclear Future, is an appropriate theme for this point in history, however if I could rephrase that title slightly I would change it to Navigating our Nuclear Future. I say "our" because the nuclear future -- I believe our nuclear future is

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-- I believe that the path forward for civilian nuclear energy is one that we must share if we are to succeed.

And if you're participating in this conference, then you're all on the front lines of sharing this collective responsibility to try to path forward to a true and enduring nuclear renaissance. We can either share in the success of navigating our way to a responsible nuclear future or we will share in the failure to do so. Like many of you, I prefer success.

So this begs the question what is success? I'm sure each of us has a different definition of success depending on your professional and personal perspective. My version of success, which I will share with you today, reflects my view as just one Commissioner among the five-member Commission of the NRC. And my views are shaped by my understanding of the NRC's purpose, mission, and goals.

My views are also shaped from my personal and professional experiences prior to joining the Commission. And since I'm the new guy around here, I'll take a minute to briefly share with you some things about me so you can better understand my

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perspective. And I'll reiterate a little bit of what Andrea said, but try not to duplicate it too much.

I was born and raised in Carson City, Nevada. My father, Robert Crowell, was a Vietnam veteran, long-term member of the Navy, and also three-term mayor of Carson City until he passed in 2020. I mention him in part because he devoted his life to public service and he is the inspiration for my commitment to public service.

My public service career began after graduating from Santa Clara University in California, when I drove from California to Washington, D.C., stopping in my hometown of Carson City to purchase a 1985 Cadillac from a pawn shop for \$1,900.

After barely making it across the country, I cut my teeth answering the phone and writing constituent letters for former Nevada Governor and U.S. Senator Richard Bryan until he retired. I later worked for Senator Sheldon Whitehouse of Rhode Island during his first term in the Senate. And from there I moved to a role in the Obama-Biden Administration at the Department of Energy, including as Assistant Secretary for Congressional and Intergovernmental Affairs.

At DOE, I gained insights on many

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nuclear-related topics including advanced nuclear reactor technologies, consent-based siting for spent nuclear fuel, nuclear weapons modernization, and cleaning up America's Cold War era environmental legacy.

My tenure at DOE coincided with both the 2011 Fukushima nuclear accident in Japan and the 2014 radioactive waste incident at DOE's Waste Isolation Plant in New Mexico.

In late 2016 I left DOE and I left D.C. altogether to return to my home state of Nevada to serve as a cabinet member for two Nevada governors; one Republican and one Democrat, where I led the Department of Conservation and Natural Resources. In that role, I led a state-level cabinet agency of 1,000 employees responsible for a broad range of issues including hard rock and critical minerals mining, hazardous and low-level radiological waste disposal, water rights, land management, and many other issues.

Having served in leadership roles at both the federal and state levels of government, I have a unique understanding and appreciation for how public agencies can impact our daily lives. These past experiences inform my thinking on success. For example, these experiences taught me that success in

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the operation of a public agency necessitates balance, transparency, efficiency, and fact-based decision making.

These are values I know the NRC shares as well, but these values deserve constant polishing and reevaluation to ensure they are being implemented effectively. Organizational values of every kind lose their meaning if your stakeholders and the public for whom we ultimately serve do not experience the benefit of these values when put in practice.

So today I will share my views on what I believe constitutes success over the next five years; what our shared nuclear future can and should accomplish in that time. I've chosen five years because I see that period as a critical window of time that will determine whether nuclear energy can establish itself as a lasting meaningful part of our country's energy portfolio. Conveniently, five years also corresponds to the length of time I have on my current term at the NRC. So as of today, about six months , I've got 1,568 days remaining for me to do my job to successfully navigate our nuclear future, to which I say game on.

So how do I define success in the context of navigating our nuclear future? In short, I believe

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successfully navigating our nuclear future will be measured by the progress that we make in three fundamental areas: (1) health and safety; (2) climate change; and (3) energy security. I'll address each of these in turn.

First, the NRC must remain vigilant in its commitment to adequately protecting the public health, safety, and security of the American public and the protection of our environment. These concepts are at the core of NRC's mission and must never be compromised.

This commitment requires the NRC to maintain a strong safety culture and ensure continued focus on learning, innovation, diversity, inclusion, and the adoption of technologies. And the NRC must continue to build trust as a capable, independent, transparent, and objective regulator. But this trust must be earned. It necessitates consistent proactive engagement.

Second, to achieve success I believe the NRC must execute its mission on a timeline that supports the U.S. Government's energy and climate goals. Today nuclear energy provides approximately 20 percent of our electricity generation in the United States and 50 percent of our carbon-free

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electricity. Nuclear will play a prominent role -- nuclear will likely play a prominent role in meeting our country's collective carbon reduction goals. This means our regulatory decisions at the NRC must be technically sound to maintain adequate protection of public health and safety and protection of the environment.

But equally as important these decisions must also be made on a timeline commensurate with the urgent realities of climate change. At risk of putting too fine a point on it, we are facing the urgent imperative of climate change and the need to realize significant reductions in carbon by the end of this decade.

The science shows clearly that in order to divert the worst impacts of climate change and preserve a livable planet we must take global action to limit the increase in global average temperature to 1.5 degrees Celsius. Currently temperatures are about 1.1 degrees Celsius since -- warmer than the late 1800s. Emissions are continuing to rise. To have a chance at keeping global warming to no more than 1.5 degrees Celsius as called for in the Paris Agreement, emissions need to be reduced by 45 percent by 2030 and reach net zero by 2050. No small task.

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The United States has a moral obligation to do its part meeting this goal as a responsible steward of our shared environment, but also to maintain our global leadership role and capture the economic benefits of the clean energy economy. As President Biden's climate, envoy former Senator and Secretary of State John Kerry, said in a recent reference to nuclear energy in the context of climate change, quote, I don't think we can get there without it. I think he's right.

There is a need for secure reliable energy for our low or zero carbon energy future. Nuclear energy is a critical option for on-demand base load power to complement the expansion of renewable energy and energy storage that must replace our current reliance on fossil fuels.

A perfect case in point of this imperative is demonstrated by recent events like the State of the California reversing course to maintain a carbon-free power from the Diablo Canyon Nuclear Power Plant. In fact, we are seeing more states across the political spectrum increasingly consider new nuclear power and/or overturning existing state-level bans on nuclear energy. Whether states are moving in this direction to meet state-level clean

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energy goals for enhanced energy security or both, what is becoming abundantly clear is that nuclear energy will be needed to achieve either objective. While the NRC is not in the driver's seat on climate change and energy security, we must also not be a hindrance to success in these areas.

Finally, the third fundamental area for which I'll -- I should mention measures of success is energy security. The realities of climate change and the necessities of energy security go hand in hand. Working with our international partners to allow for the safe expansion of the use of nuclear energy across the globe is part of becoming -- is part of forming the foundation of a reliable, safe, secure, and decarbonized domestic energy sector here at home.

As regulators from across the world, we're all responsible for making technically sound decisions that are in the best interest of our respective sovereign nations, but we will also all benefit from continued collaboration particularly as we review novel technologies and operational approaches.

As Canada's Rumina Velshi said recently, who I haven't met yet but who I look forward to meeting, this process -- quote, this process will be

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smoother and easier if we are willing to share our experiences as we go through it and learn from others along the way. I very much agree with her.

This point is underscored by the newly emergent geopolitical realities of energy supply and energy services following Ukraine's invasion -- Russia's invasion of Ukraine. For nuclear energy this reality has shone a spotlight on a long overdue need for the U.S. to establish an adequate reliable domestic supply of nuclear fuel and related enrichment services.

These geopolitical challenges are obviously much larger than just the nuclear fuel conundrum in the U.S. And I thank our special guests here today and this week, including Ambassador Holgate and Director General Grossi for their steadfast attention to the full spectrum of energy and other security-related challenges triggered by Russia's actions in Ukraine. And I join my fellow Commissioners in applauding our Ukrainian counterparts for their steadfast vigilance in the face of unimaginable adversity.

So that's our outlined goals for a successful, responsible, and lasting nuclear renaissance. But how do we get there? I believe

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that the recipe and ingredients for success exists today more than at any time -- more than at any one time since the advent of commercial nuclear power over 70 years ago.

While much has been slowly percolating in the commercial nuclear energy sector of the past 10 to 15 years, the momentum we are seeing today began truly accelerating in just the past few years. In the United States the Nuclear Energy Innovation and Modernization Act of 2019, or NEIMA, set the stage for modernizing the commercial nuclear energy regulatory process in preparation for a new era of advanced nuclear power technologies.

While the NRC has been working to fully implement NEIMA's requirements the White House and Congress came together again in 2021 to enact new and enhanced incentives to help maintain the viability of our existing nuclear fleet while also supporting the development of new advanced reactor technologies that promise to deliver more carbon-free nuclear energy to our grid through safer and more cost-effective nuclear reactor designs and advanced fuels.

Two landmark bills, the Bipartisan Infrastructure Law and the Inflation Reduction Act, each included what Congress determined to be

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essential support to help secure the future of carbon-free nuclear energy in the United States. The nuclear-related provisions of both bills received bipartisan support in the House and the Senate, a fact in of itself that shouldn't be notable, except that in today's political environment, it is a rarity, especially on a topic like energy policy.

And Congress took action again just last year to fill another critical gap necessary for navigating our nuclear future by providing needed direction and investment to establish a secure long-term domestic nuclear fuel supply chain.

So here we are in 2023 with the makings of a modernized regulatory pathway and significant federal financing incentives for new and existing nuclear power plants and nuclear fuel supplies, coming together at the same time advanced nuclear technologies are on the cusp of commercialization. This confluence is noteworthy and it should not be taken for granted. It's an all too uncommon occurrence in the less-than-perfect world of policy making to have all of these things coming together at the same time.

Now while we have all of the elements converging as crucial ingredients in the recipe for

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success, the cake is not going to bake itself. Everyone attending the RIC this week has one or more roles to play in helping this recipe come together to ensure nuclear energy can be a safe, secure, and reliable part of our clean energy future. And the Nuclear Regulatory Commission itself is no exception. Indeed, the NRC's role is not only critical, but perhaps the most daunting as well.

The NRC will need to shift the way it has traditionally operated to accommodate an anticipated workload that is larger and broader in scope than ever before and it must do so on a timeline and continued pace unlike at any point since the agency's inception. But I am confident that with clear direction and sustained leadership from the Commission and NRC senior career staff we can keep the agency true to its mission while not losing sight of the bigger picture imperatives of climate change and energy security.

I'm confident that the expert dedicated staff throughout the NRC are up to the task. In fact, I think they're hungry for the challenge. Or as my colleague Commissioner Wright would say, they're ready to meet the moment.

As the newest Commissioner on the NRC I'm

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committed to helping facilitate the agency's success to transform the NRC into a modern, risk-informed, and efficient regulator. In doing so, I intend to question the status quo through leveraging my prior leadership roles in federal and state government. I will endeavor to maintain my external perspective to ensure the NRC's transformation achieves -- is achieved not through words, but through tangible and common-sense actions.

So how do we do this? It's not going to be easy, but I will share with you some of the ongoing and necessary reforms that I believe are the most important for the NRC to do its part.

First, reinvigorating the heart of our agency, the NRC staff. One of the NRC's current strategic goals is to continue to foster a healthy organization. To do that we must reinvigorate the NRC with a renewed and expanded sense of purpose.

In 1962 President John F. Kennedy visited NASA for the first time. During his tour of the facility he met a janitor who was carrying a broom down the hallway. When the President asked the janitor what he did for NASA, the janitor replied I'm helping put a man on the moon.

At the NRC all employees should

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understand how important their respective roles are to ensuring the safety and security of nuclear technology and that the agency's mission is integral to meeting our collective climate and energy security goals.

We must always maintain a strong safety culture. This requires that all employees feel free to raise concerns all the way up to the Commission level if needed and that they know their concerns are heard and addressed. Good ideas and questions can come from any person at any level in the organization. We must be vigilant in breaking down silos throughout the agency that impede effectively working together and we must avoid the temptation of thinking myopically, speaking in bureaucratic terms rather than in human ones and never losing sight of the big picture or forget our shared sense of purpose as public servants.

The NRC must be innovative, become more diverse and inclusive, and be a learning organization that values continuous improvement. The NRC has a tremendous track record of ensuring safety and security, but I don't think everyone knows that. Moving ahead we must maintain that record at a scale and on a timeline unlike ever before. But in doing

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so we must also not be afraid to try and fail occasionally along the way.

To build on Chair Hanson's quoting of Albert Einstein in his remarks yesterday, Einstein also said, quote, failure is success in progress. We must remember that true and lasting transformation is an iterative process. We will stumble along the way. We will learn from it and we will become better. And it will all start with having the right workforce that reflects today's challenges.

The current NRC workforce is world class, but increasingly retirement-eligible. I'm on the younger half of the age -- median age line at the NRC, as more than 50 percent of the agency is currently over the age of 50. Factoring in attrition rates we will need to hire between 100 and 200 new employees every year just to maintain current staffing levels. Not easy in any environment, much less today's economic environment and with the technical skills we need.

So if a lasting nuclear renaissance takes hold beyond the next five years, then we will need to continue to grow even further to meet our increasing workload. We need to attract, develop, and maintain a high-performing, diverse, engaged, and flexible

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workforce, and we must do so in an environment where we are competing with each of your organizations for a very specialized and limited talent pool. We are not only thinking about the workforce we need in the future, but also the regulatory processes that the workforce is currently developing and will navigate in the future.

The amount of hugely important work to be done at the NRC cannot be overstated. For example, Congress directed the NRC with developing a risk-informed technology-inclusive regulatory framework for advanced reactors, Part 53. It's just one of the many rulemakings that is an enormous undertaking currently at the NRC.

But none of this will be possible without public trust. And I'm glad that public trust is another one of the NRC's current strategic goals inspiring the confidence -- inspiring the public's confidence in the NRC.

To do this well means we must double down on current efforts to engage in proactive and meaningful interactions with states, tribes, and other governmental and non-governmental organizations as well as with industry, international bodies, and the public. The NRC must provide fair

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and timely opportunities for public involvement in its decision making. I recognize the challenges around public communication in a large governmental organization, but regards to those challenges clear understandable communication must always be one of the agency's highest priorities.

From the big picture context I doubt the majority of the public in the United States has heard of the NRC, and even less know what the NRC does. And of those that are familiar with the NRC it's very possible that their impression of us is not a positive one. This needs to change, but it will not change if we remain in the shadows.

Another thing I like to say in previous organizations I've led and worked for is that you will be -- if you don't celebrate your successes, you'll be defined by your failures. And we need to do a better job of celebrating our successes and communicating that with a wider audience.

But this will not change without every NRC employee doing their part to improve the narrative in the course of their role at the agency. We must also be working from the same common theme and sense of purpose.

We must develop new communication

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strategies, get better at explaining what we do in the plainest language possible such that our friends and neighbors can understand and appreciate the important role that the NRC plays in our daily lives.

We must always strive to provide high-quality information to the public in an accessible, comprehensive, and clear manner. We must ensure any person or organization who wishes to participate can understand and navigate the regulatory process.

We must also focus on the full fuel cycle from mining to waste. To build trust we must reassert commensurate focus on the full fuel cycle. Over the years there have been several studies and polls that have shown the support for nuclear energy would increase if the waste disposal issue was resolved. While the NRC is not in charge of siting a permanent nuclear waste repository, that doesn't mean we should ignore the reality that one is needed and that a consent-based process is the best route for doing so.

We need to approach technical and regulatory decisions related to decommissioning with the same rigor as we do with new reactors. The same goes for life extension requests for the existing fleet. Basically we can't afford any foot faults as we look to submit the foundation for - a hope for a

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nuclear renaissance.

We know spent fuel and high-level waste is and can continue to be stored safely for the foreseeable future. And I agree with Bill Gates who recently noted that nuclear waste is not a reason to not deploy more nuclear energy, but we must not ignore it either.

I believe our regulatory decisions will have broader public acceptance if the public knows we are considering the entire fuel cycle and if there is proactive engagement on used fuel management and waste disposal by the commercial and public entities involved.

As the nuclear power industry continues to transform from large light water reactors in a once-through fuel cycle to what may be future small and advanced reactors powered by recycled fuel, the NRC just recommit itself to keeping apace.

The opportunities for diversification within the U.S. nuclear industry are nothing less than breathtaking. New fuels, new enrichment processes, new reactors, and yes, possibly even new ways to manage waste by recycling and reusing spent fuel. And fission isn't the only game in town anymore either. Dare I say it? Fusion could make an

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appearance on just the other side of the five-year window I focused on today.

I just mentioned managing waste among other things, that will be part of a revitalized nuclear power industry. As we move forward I think it will also be important to successfully manage decommissioning of all kinds of facilities. Nuclear facility decommissioning and radioactive waste management, safely managing waste throughout the entire fuel cycle, weighs heavily on people's minds, the legacy of contaminated sites including abandoned uranium mines, uranium milling and mill tailing disposal sites and low-level waste disposal facilities. Remedying and not repeating the mistakes of the past will require proactive engagement with a broad array of stakeholders.

In five years I believe that NRC's reputation must transform into the following: (1) The NRC is known for making sure civilian nuclear power is safe for everyone now and for future generations; (2) because the NRC makes nuclear power possible, it plays an indispensable role in averting climate change; (3) the NRC is essential to our long-term energy security by facilitating the safe adoption of reliable, advanced nuclear energy

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technologies.

If we have another false start in a hope for a nuclear renaissance it will spell doom for the future of the advanced -- of advanced nuclear energy. Neither policy makers nor the public will have the patience or belief that widespread nuclear energy is feasible. Five years from now nuclear energy is either in the game as a safe, reliable part of our energy supply or it will become a stagnant, declining part of our energy portfolio for the remaining life of the existing plants.

The table is set for a true renaissance this time like never before. Legislation, geopolitics, climate change, energy security, technological readiness are all there. The NRC needs to be part of the solution by making data-driven and risk-informed decisions that enable the deployment of safe and secure nuclear technologies on a timeline commensurate with our shared climate and carbon reduction goals. As Energy Secretary Granholm recently said, these next few years offer a can't-miss opportunity to harness nuclear's full potential. And I couldn't agree with her more.

Each of you play a role in making this opportunity a reality. I thank you all for allowing

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me to share my perspectives with you today and I welcome any questions you may have.

MS. VEIL: Well, first of all, congratulations on the milestone of your first RIC speech. I know how it feels to be up there with those lights. So congratulations.

So the first question is as you aptly pointed out, it is our nuclear -- our -- this is capitalized -- it is our nuclear future. For the NRC to do its part to meet the demands of the most important moment in our energy future, leadership courage and accountability will be needed to adhere to the NRC's five principles of good regulation.

What is being done to address this aspect to ensure the agency is positioned to meet the timeline demands to achieve climate change and energy security goals?

COMMISSIONER CROWELL: Thanks for passing that question along, Andrea. It's a great question and quite honestly it's -- the answer to which is something I'm trying to figure out as well.

There are lots of things happening in the transformation space to modernize the agency and make it more reflective of current needs, but I don't think we've looked at it in terms of how we're doing our

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transformation modernization in the context of a timeline to meet larger policy goals. And so I think we need to start looking at those things in the context of broader-held societal objectives, climate change, energy security.

MS. VEIL: Okay. Second question: Health physicists are greatly needed in the agency and in the industry. What can the NRC do besides fellowships to draw them to the agency and to retain?

COMMISSIONER CROWELL: Also a great question. So I don't know specific to health physicists, if there is something that is unique we can do to recruit and retain them other than what I think we can do to recruit and retain employees of all stripes, which, one, is to have a more flexible nimble hiring process and work environment. And I think even more importantly is communicating well the unique nature of the work that you can do at the NRC and the difference you can make in making the world a better place. I mean, this is the trade-off for some of the traditionally lower salary in a government position is the fact that you get to be involved in so many cool things and you get to make a difference. And if that's not of interest to you, then government probably isn't the place for you to

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be. But if it is, it can be a really cool and special place to be. And the NRC can be at the heart of that. And I think in the past it really has and we just need to reclaim that mantle.

MS. VEIL: Okay. Next question: How do you think DOE and NRC can overcome NIMBY, not in my back yard -- I'm sure everybody knew that, but just in case -- for either siting a high-level nuclear waste site or reprocessing plant?

COMMISSIONER CROWELL: Lots and lots of proactive engagement. Looking for support that can then help put the meat on the definition of what consent-based siting could be. I also think we should look at to our neighbors to the north in Canada and some of our international partners: Finland, France, Switzerland, and others, that are further along the line in establishing repositories and see what worked for them. But the way not to do it is through the non-engagement process. I think if we repeat the mistakes of the past, we're going to fail. Even a consent-based process is going to take time. And it's not going to be fun, but it's the only way that's going to be lasting.

MS. VEIL: Okay. Given your desire to see the NRC more engaged on the back end of the fuel

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cycle, do you support revisiting the NRC's decision not to engage in rulemaking for risk-informed reprocessing regulation?

COMMISSIONER CROWELL: So I like to say that I'm not in my honeymoon period anymore, but there was a lot of reading I had to do, and I'm still doing since getting to the agency. And I have not delved in on that one yet, so I can't fully answer it, but I will take it for my homework.

MS. VEIL: All right. Next question: Given the Commissioner's speech can you provide three specific achievements that will meet his vision? I guess they're talking to you because they're certainly not asking me to give you -- so let's rephrase this. Given your speech can you provide three specific achievements that you -- that will meet your vision within the time frame of your tenure?

COMMISSIONER CROWELL: I could probably give you more than three, but I'll just throw some out there. One, meeting our hiring and retention goals, meeting our diversity and inclusion metrics, integrating and updating environmental justice into what we do at the agency, and radically improving project management.

MS. VEIL: Right. That actually rolls

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into the next question. That's a good one.

How do you feel environmental justice will impact timeliness for reviews?

COMMISSIONER CROWELL: I don't think it has to lengthen the duration of timely reviews. It will require more work in the course of doing our reviews, but if we're adequately staffed and we're taking the environmental justice mission seriously, then we'll fill the gaps where we need staffing on it and get it done on a timeline that is appropriate rather than lengthening it because of that. We're already overdue in addressing environmental justice and we shouldn't allow ourselves to drag our feet any further.

MS. VEIL: Now, the next two questions will be about newness. That's the theme. So is there anything you would like to say to engage our newest employees?

COMMISSIONER CROWELL: Come up and talk to me. I'm new, too. I'd love to share your experience, understand where you came from, why you chose the NRC, what you like and don't like. And I'll share my views in return. I've spent the majority of my career in public service in government agencies and like I love the family feel of the NRC,

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but it is a challenging place to figure out and navigate. And I'm still learning. And I know how to do this stuff and I'm still learning.

MS. VEIL: And that's actually a great segue to the next question. As the newest Commissioner and a new NRC employee what are the biggest challenges that you've seen and what surprised you about the NRC that you didn't know when you weren't here?

COMMISSIONER CROWELL: I think one of our biggest challenges is that we're such a technically and focused agency that we've lost our ability to talk in plain language to everyday people, be it acronyms or technical speak, and we need to get out of that habit. And it doesn't mean that if that's - - if you're a scientist or engineer and you don't want to talk to the public that you're the one that has to do it, but then we need to give you the support around you to help you translate what you do in the appropriate forum to reach a broader audience. We overuse acronyms and science and technical speak way too much. What was the other half of that question?

MS. VEIL: Well, just challenges. And I think you rolled it into kind of that that is a challenge. And I hope I got credit for talking about

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NIMBY and --

COMMISSIONER CROWELL: Yes, yes, yes. Well, I was going to say like we should have a rule that there's no acronyms more than four letters. NIMBY would break that, but everyone knows NIMBY. But I mean, I've never -- I mean, so I'm just going to say this straightway and praying the DOE folks in the audience -- the NRC has made the DOE look easy to navigate. That's been my experience. Okay? So let's -- we ought to learn from that. A book this thick of acronyms is bananas. It does not help us get where we need to go.

MS. VEIL: I agree.

COMMISSIONER CROWELL: Yes.

MS. VEIL: And I think we have time for one more question, and it may be a multi-part. So we enjoyed your technical session yesterday on transforming and modernizing the environmental review process. Are there any questions that you didn't get to answer? What's one thing that you think of that we can do to transform environmental reviews?

COMMISSIONER CROWELL: I think the big takeaway I was hoping was part of yesterday is that the environment review process does not have to be looked at in the strict confinement of NEPA or the

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act or regulation that you're working on. It can and should be a broader ongoing conversation from the pre-application stage throughout.

Yes, there's going to be guardrails here and there depending on what kind of process is happening on a given statute, in adjudications, things like that, but we need to stop being afraid of talking about protection of the environment and communicating as appropriate with communities so they have trust that what we're doing, while technical, is right. And I think that's the secret sauce to doing what we're going to do for the years to come.

MS. VEIL: Well, again, congratulations on the milestone. It feels great, doesn't it, being done?

COMMISSIONER CROWELL: Yes. It's pretty good, yes.

MS. VEIL: Yes.

COMMISSIONER CROWELL: I'll be at the bar if anyone wants to meet me. Thanks, Andrea.

MS. VEIL: And with that, we close the session.

(Whereupon, the above-entitled matter went off the record at 9:57 a.m.)

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