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COMMISSIONER CAPUTO PLENARY

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WEDNESDAY,

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ROCKVILLE, MARYLAND

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The Regulatory Information Conference convened at the Bethesda North Marriott Hotel & Conference Center, 5701 Marinelli Road, at 8:45 a.m.

PRESENT:

ANNIE CAPUTO, Commissioner, U.S. Nuclear Regulatory Commission

HO K. NIEH, Director, Office of Nuclear Reactor Regulation

PROCEEDINGS

(8:43 a.m.)

MR. NIEH: Good morning, ladies and gentlemen. My name is Ho Nieh. I am the Director of the Nuclear Reactor Regulation.

We are going to start a couple minutes early because I do have a few housekeeping reminders but it's great to welcome you back to the second day of the RIC and I hope you really enjoyed yesterday's opening and sessions that ensued.

Obviously, we are doing things a little bit different here at the RIC and I got a lot of feedback about it. And one interesting feedback I would share because more than one person had mentioned to me yesterday that hey, we didn't hear as many scientific-related humor or jokes during the opening session, which those jokes typically adorn the opening sessions of RICs of the past. So I looked this morning and I'm going to try to do my best and give you one.

I don't think I can meet the standard that has been set in the past by the Commissioners, but did you hear about the time when Heisenberg was pulled over by the cops? The police officer asked him, do you know how fast you were going, and Heisenberg

replied, no, but I know where I am.

Okay, I don't know if that was used before. You know we don't catalogue the RIC jokes and maybe we can write a NUREG of scientific jokes at the RIC. I hope Commissioner Baran doesn't find that one when it's written but we can put it in ADAMS and quarantee that he won't find it.

(Laughter.)

MR. NIEH: I heard some groans there. Okay. Thank you.

Okay, just two quick housekeeping reminders. In the app that's new, right, please make sure you rate the sessions. That will give us a good feedback on the quality of the technical sessions that you go to.

And then today, we are celebrating Women's History Month in the United States here in March to celebrate all the great achievements of women and their contributions to the world. And there is a luncheon sponsored by the Federal Women's Program Advisory Committee. And I know it's sold out, but I just want to put it out there that we are honoring the women and their contributions.

So without further ado, I would like to welcome the Honorable Commissioner Annie Caputo, who

was sworn in as a Commissioner of the NRC in May of 2018 to a term ending June 2021. And Commissioner Caputo, as many of you know, has previously held positions in the Senate Environment and Public Works Committee and the House Committee on Energy and Commerce.

So welcome, Commissioner Caputo.

COMMISSIONER CAPUTO: Good morning. And I will start by thanking Ho and Ray for organizing such an amazing conference. I know your staff has spent considerable time and effort planning and coordinating the event with months of preparation.

I would also like to thank, for those of you who haven't noticed, the Montgomery County Police for being here, and staffing this event, and watching over us.

I am always amazed at how well attended this event is, having grown to over 3,000 participants. It looks really big from up here. So thanks to all of you for participating. NRC staff, international colleagues, academia, federal and local governments, non-governmental organizations, members of the public, it's wonderful to have you all here and we greatly value your participation in the conference.

I also want to thank my husband and kids

for coming today. Without their love and support, I wouldn't be able to do what I do. While they mostly consider me a geek, their being here today is a chance to show them that nuclear safety is in fact cool.

Their being here also gives me an excuse to share a story of change that my family experienced recently, what I learned from it, and an opportunity that grew from it. So I will start with the opportunity.

I was a junior in high school. Every Sunday in every sermon, she used me as an example for a message to her congregation. This was my weekly dose of embarrassment. Every day, every Sunday until I went off to college for two years.

Now fast forward to the RIC and I'm presented with an opportunity. I can pay it forward and provide this experience to my kids all in one shot, rather than 52 Sundays a year for two years. So to my kids, you're welcome.

Now for the family change. My husband and I recently decided to transfer our kids to a different school. When we told them, their reactions were very different. One said, great, this will be an adventure; I'll make a bunch of new friends. The

other one was reluctant. This is the only school I've ever known. I've gone here all my life. I don't want to change.

After talking about it more, and explaining our reasons, and visiting the new school for a day, the attitude began to shift. Well, most of the teachers seem nice and the kids are pretty friendly. And then a little while later, you know this change will be good. And then my favorite: wait. Why do I have to wait for January? Why can't I just start there tomorrow?

So what this taught me was people respond to change very differently. Some may eagerly embrace it. Some may want to discuss it and understand the reason for it. Some may need to experience a little to fully embrace it. Some changes are inevitable. Some are changes we choose to make. How well we adapt to the changes we face is a result of the changes we choose to make. How well we adapt reflects who we are as individuals and as a team.

When my husband, A. J., is confronted with change, he boldly announces I have super A. J. genes.

I will adapt and overcome. It's pretty comical.

We may not have super A. J. genes but who we are as an agency and our character is embodied in

the principles of good regulation and in our values. The NRC is a collection of highly skilled, experienced, and dedicated employees but it is our principles and values that will enable us to embrace change and successfully accomplish our mission as a team.

And there are many changes facing the agency. Many of them were discussed yesterday, so I won't repeat them today. That's the benefit of speaking on a second day of the RIC. A lot of this has already been said, just not by everyone.

But I will quote Will Rogers: A vision without a plan is just a hallucination. We are in a stage where the transformation effort is taking shape but different people have different ideas about what it is exactly. I believe the transformation is about becoming a modern regulator that promotes and embraces innovative approaches to achieve our mission. The mission doesn't change and our principles and values don't change but our workload and how we manage will have to be different.

Margie Doane referred to innovation as a muscle. Innovation is not a matter of waiting for inspiration and shouting eureka. It is something we should all exercise as a part of what we do. In the

same way that a questioning attitude is crucial for nuclear safety, we can ask is there a better way to do this in our daily decisionmaking. In this spirit, I want to applaud the work of the NRC's Innovation Forum and all the employees who have contributed their ideas so far.

As our workload changes, there are also opportunities to invest in the leadership skills of our employees. Training will be key to this effort. As things change, it will be more important than ever that we provide the tools that our staff need to manage the changes that they face and be successful.

And as we anticipate the changes in front of us as an agency, one thing is for sure. Leadership will play a decisive role in shaping the outcomes. With all of these changes, it is incumbent upon all NRC leadership, including my colleagues on the Commission and myself, to communicate clearly, diligently, and thoughtfully. To that end, I think Margie Doane's Strategies on a Page, or SOAPs, and the new transformation web page are a good start and I hope the staff finds them useful.

One of the dominant aspects of transformation is expanding our use of risk-informed decisionmaking. I often hear it discussed at a high

level but I'm working to understand how we use it on a daily basis. Our principle of efficiency states regulatory activities should be consistent with the degree of risk reduction they achieve. This is the foundation for our ongoing endeavor to better utilize risk information. Better utilizing these tools will enable us to modernize our decisionmaking and focus our time and resources on achieving the greatest safety benefits. To this end, EPRI's 2018 paper on insights into risk margins and NEI's paper understanding current levels of safety are useful to consider incorporate risk-informed as we decisionmaking provided, of course, that the industry maintains its high levels of safety.

And with that said, the roots of our regulatory framework originated with the Atomic Energy Act in 1954 and our industry has over 4500 years of operational experience in nuclear power. Where we stand today is the result of many lessons learned along the way but our experience also contains a wealth of data that provides risk insights.

As the Commission considers expanding the use of risk-informed decisionmaking either in licensing or oversight, such proposals should have a sound foundation in transparent, objective, high

quality, and data-driven analysis. In fact, this topic is of such great interest to me that on Thursday, I am moderating a panel discussion on risk-informed decisionmaking that I hope will provide a great conversation and diverse perspectives on how to best leverage risk insights. So yes, that is once more a shameless plug for the Thursday morning session on risk.

Similarly, our backfit rule serves a valuable purpose by refining our focus on safety significance and licensing decisions. The backfit rule provides a disciplined process for determining whether regulatory changes are necessary for adequate protection or provide a substantial cost-justified safety increase. In this way, the backfit rule is an essential tool for achieving more risk-informed decisions that are transparent, objective, and high quality. For this reason, I would like to see us improve our adherence to the backfit rule. The result will be higher quality actions focused on areas that yield significant safety benefits.

Now I would like to turn my attention to the Nuclear Energy Innovation and Modernization Act which was passed earlier -- which was signed into law earlier this year with overwhelming bipartisan

support. I consider this to be Congress' and the President's statement of their expectations for transformation at the NRC, particularly with respect to budgeting and fee recovery, advanced reactor licensing, and accident-tolerant fuel.

With regard to the last two issues, our ability as an agency to reach prudent decisions in a timely manner will directly impact whether those efforts are successful. Prompt action, delayed action, and inaction are all outcomes that are directly determined by our choices. External stakeholders, including Congress, are watching closely to see how well we execute our responsibilities. This will require us to be responsive, accountable, and proactive to efficiently reach sound decisions in keeping with our principles and values.

Congress was also clear about the need to reform our budgeting and fee recovery process. As reactors close and new reactor licensing work declines, the fees from those licensees and applicants decrease. Unless there is a corresponding decrease in the budget, this dynamic results in fee increases for operating plants under the existing law. For example, under our proposed fee recovery for 2019, operating reactor fees increased 8.4 percent as a result of the

closure of one plant, the planned closures of two more, and the completion of a design certification.

Congress recognized that this structure was not sustainable, particularly given the trend in premature plant closures. But currently we use a budget developed two years ago to formulate a budget for two years from now without much calibration of comparing to actual expenditures. This results in a budget that is slow to reflect our changing environment. The new budget and fee recovery structure in the new law provides an opportunity for us to harness analysis of actual expenditures to better inform our budget decisions and rethink how we allocate our resources.

Allocation of resources is a major instrument of policy for any agency. It's a statement of our priorities and the means to achieve objectives. For this reason, I dedicate a significant amount of my time to our budget formulation and fee recovery process, a fact that is well known to the staff that are tasked with answering my many questions. But I firmly believe our financial management should not be exempt from the benefits of data analytics and transformational thinking. For these issues and many others, I would like to see the agency use more

results-driven approaches and better utilize data to measure performance and decisionmaking.

As the great artist, Michelangelo once said the danger for most of us is not that our aim is too high and we miss it but that it is too low and we reach it. Our existing metrics have given us our existing performance. If we want to improve our performance, then we must begin by improving our metrics. In the future, I would like to see the NRC able to objectively and candidly assess our results and share those results publicly. Absent this, our transformation efforts will fall short.

In conclusion, while the NRC is facing many challenges, our principles and values don't change. They are the roadmap to embrace change and be successful. In the words of Mark Twain, success is a journey, not a destination. It requires constant effort, vigilance, and reevaluation.

Our journey as a regulator began in 1954 with a determination that nuclear could be used for peaceful purposes. Since then, the industry and this agency have gone through several periods of change but our most basic charge has remained the same: to provide reasonable assurance of adequate protection of the public health and safety. That safety mission

must remain the sound foundation on which all of our transformational efforts are built. Thinking beyond that, we need to find ways to improve how we do our work. We should use our own expertise to rethink how we do things, but this is also where innovation can be a huge help. Companies and other agencies are innovating all the time. We need to examine how we can take their ideas and put them to work for us.

In looking farther ahead, the road is less clear. This is where we will be agile, flexible, and ready to tackle whatever comes. No matter what the future holds, I will join you in rolling up my sleeves and putting on my best thinking cap to shape a modern, successful NRC.

Thank you for your kind attention. I hope this conference is productive and engaging for all of you. And I look forward to your questions.

MR. NIEH: Thank you very much for those remarks, Commissioner Caputo. We have a few questions for you here.

This might be a good opening one for you.

I'll put this in my words. Commissioner Caputo,
you've obviously been very familiar with the NRC,
given your experience working on the Hill. You've
watched the NRC do a lot of things over the years and

probably even do some changes over the years as well, but now that you are working at the NRC as an NRC commissioner, what are your thoughts compared to your previous experiences at the NRC?

COMMISSIONER CAPUTO: Well, I will start with a piece of advice or an observation that former Commissioner Magwood gave me after I was nominated. He said that above all, the thing I would enjoy most about the NRC is the people. It's a fabulous dedicated staff, very, very knowledgeable. I learn a lot from them every day, and I really do relish our robust discussions and the diverse perspectives that I hear, and it does a lot to inform my thinking on a whole range of topics. So I have to say I am just absolutely thrilled with the staff and look forward to working with them every day.

MR. NIEH: Okay. We've got a couple questions here related to risk here.

You mentioned regulatory changes with the principles of good regulations, that regulatory changes should be commensurate with risk reduction. How much more risk reduction is needed and required or warranted? In other words, how much is enough?

COMMISSIONER CAPUTO: I think that's a decision that gets made every day on a daily basis. I

think what we need to make sure that we have is processes that lead us to risk-informed decisionmaking and our tools for employees to make those decisions as they come across them in their daily work.

MR. NIEH: Okay. And then one that's related to that, I guess you're going to be chairing a technical session tomorrow on risk-informed decisionmaking. Can you tell us what risk-informed decisionmaking means to you?

COMMISSIONER CAPUTO: Can I tell you what it means to me?

MR. NIEH: Yes.

COMMISSIONER CAPUTO: At this point in time, I would have to equivocate on that. I think we talk about it a lot at a high level and in concept but I am working to learn more about what it means in daily practice and how we actually use it as a tool, how we increase our use of risk information in light of our deterministic history. So that is something that I am working harder to understand more fully.

MR. NIEH: Okay. So we have a question here based on recent tragic examples in the aircraft industry with the Boeing 737 airplanes. And the question is: What can the industry learn from these experiences? And I suppose there is maybe a

connection perhaps to digital technologies there. It doesn't say that in the question, but the question really relates to what can the industry learn from other events, including these tragic accidents with the Boeing aircraft of recent news?

COMMISSIONER CAPUTO: Well until we know fully what the reason was for those situations, I wouldn't really want to comment on those but I would point out that the airline industry has been using digital technology successfully since 1994. So I would like to think after 25 years of use that we won't indict it on one result.

I do think it's a situation where we certainly need to understand in great detail what happened with those incidents but I don't think that that is a reason not to proceed with digital technology because there are a lot of safety benefits that are inherent in increasing these digital technologies.

MR. NIEH: Okay. We got that one already.

Okay, you discussed in your remarks NRC becoming a more modern regulator focusing on better data analytics. Where do you think the NRC can improve the most in this regard?

COMMISSIONER CAPUTO: I think in budgeting

I think we have some metrics that are shared publicly but I think they're very high level and I don't think that they are necessarily as ambitious as what we could achieve, if we set more aggressive goals.

MR. NIEH: Can you maybe deepen a little bit more your thought on the budgeting in terms of the data and being more modern in how we go about that?

COMMISSIONER CAPUTO: When you look at our budget and the document that we produce for Congress, the numbers are rolled up to an extremely high level. So there is information in there, for example, with subsequent license renewal that we need to increase our spending on subsequent license renewal but there is no detail provided on how much we already spend and how much that comparative increase would be.

So I think we need to understand a lot more historically what we have spent, how we've spent it in order to educate ourselves on whether or not such an increase is warranted, or too lien, or too much. Without the detail on actual expenditures I think it becomes very difficult to know whether we're actually placing our resources where they do the most benefit.

MR. NIEH: Okay, thank you.

The Commission has before it a paper, SECY-18-0060, entitled Modernizing NRC's Risk-Informed Decisionmaking. I think this is what we have so-called the Transformation Paper.

Can you tell us please what the status of that paper is with the Commission and what your views are of what was presented?

COMMISSIONER CAPUTO: While I can't speak for my colleagues, it's something that I have looked at and reviewed but there are also a lot of papers pending before the Commission. And so I think this is one that you heard the Chairman and Margie Doane mention yesterday that transformation will, in many ways, be made one decision at a time and one step at a time. And I think that is, perhaps, where we are.

My own views are that transformation really extends beyond the paper, not just the items that are covered in the paper. So I think you know, I think as a commission we are working to assess really what our next steps will be in that regard.

MR. NIEH: Okay so I'm going to embellish that for me a little bit here. I heard in some of the hallway conversations yesterday some comments about the one decision at a time and I think that may mean different things to different people. I think the

person that was speaking to me presented it in the context of that sounds like an incremental change.

And he was asking is that where NRC is really going.

So do you have a perception or a view on what one decision at a time really means and is NRC just making incremental changes or do you think you see the NRC needing to make bigger changes?

COMMISSIONER CAPUTO: Every journey begins with a step. So if we're going to talk about increments of change, they are still increments of change and it is still important to begin that journey with a step. Some changes will be larger than others, some will be incremental. I think it remains for the Commission to decide where we feel comfortable making larger strides and where there are smaller increments. Because I think, no matter what, we are changing a very established regulatory framework and that needs to be done very carefully and deliberately and with a fair amount of analysis.

And so to a certain extent, some changes will not happen overnight.

MR. NIEH: Okay, thank you.

I have a question here related to reactor oversight process. The Commission has a paper related to engineering inspections. So the question is:

Where is the Commission at on this paper and what are your views on the use of licensee self-assessments in place of inspections by the NRC?

COMMISSIONER CAPUTO: I think I am open to the use of self-assessments but I think it needs to be targeted and I think it needs to be well justified for exactly how we utilize the self-assessments. I think in reality our resident inspectors probably rely on a certain amount of self-assessment that the industry does already, whether we are reviewing documents of measurements that they took in the plant versus making all of those measurements ourselves.

So I think to a certain extent, it's an incremental step but it's one that is worth looking at and evaluating.

MR. NIEH: Okay and the part about the Commission where you see things at on the paper, any thoughts there?

COMMISSIONER CAPUTO: I think it is one of many papers that we are looking at and I am waiting to study it more in-depth. I think this is one area where there has been a pretty substantial regulatory effort. I'm not clear that it's in line with the safety significance that we found through those inspections. So I want to look at that closely and

see -- just look more closely at what the staff's recommendations are.

MR. NIEH: Okay so I'm going to maybe piggyback onto this because you're aware the NRC staff has embarked on an effort to enhance the reactor oversight process. It is a flagship inspection program for the agency and there is a number of changes or areas that the staff is considering for changes, including the size of the baseline program, the white finding issue, and also the significance determination process.

your thoughts on what ROP enhancements means to you in terms of some of the things that we're looking at in the size of the baseline program which has been defined as the minimum for the inspection program, regardless of performance, and then things such as white findings? Are you having any conversations about these issues and if so, tell us what you think about the things we're looking at in the ROP.

COMMISSIONER CAPUTO: A few conversations.

I'm looking forward to seeing what the staff recommends.

I do think there is merit in the statement that you know the ROP is almost 20 years old. So we

have a lot of experience in using it and a lot of data has been produced by that program. So I think there's a wealth of information for us to look through and see if it is still as risk-targeted as it needs to be.

You know the industry also makes the argument that they are operating at much higher levels of safety than they were 20 years ago. So I think if we factor that into our decisionmaking, we just need to make sure that we are inspecting the right things and making sure that they maintain those high levels of safety.

And to that end, I think if we can use the data inherent in the ROP to create a sound foundation for changes, then I would welcome a review of a very thorough data-driven revision.

MR. NIEH: Okay. I have another question for you in terms of what the agency is doing to prepare itself for advanced reactor licensing. There is a Licensing Modernization Project that is being led out of the Office of New Reactors. Can you share with us your thoughts on the direction the agency should be heading in terms of being ready for regulatory reviews of advanced reactor designs that are non-light water design?

COMMISSIONER CAPUTO: Well this is clearly

one area where both Congress and a sector of the industry are very eager for us to make more progress. And I think this is one of those key examples which will define us in the minds of our external stakeholders as to whether we can modernize and learn to regulate new technologies that are vastly different than what we have done historically. So it's a very high-profile effort.

I think at the end of the day, we need to make progress as efficiently as we can make it but with the realization that we are learning as we go and need to make sure that our decisions are sound as we move forward.

So it needs to be deliberate but efficient and I think that's the lens that I look at is are we making enough progress to be ready for the industry when it's ready to test a new licensing process. And I think this is very similar probably to what the agency went through in preparing for the new application wave in 1996 -- sorry -- 2007 with the new applications based on the new licensing process that had been designed in the '90s.

MR. NIEH: Okay. So it's interesting. I actually can't see the timer here, but I think we're running close. So I think we have maybe time for just

one more question. And I would just like to offer you, Commissioner Caputo, do you have any final thoughts you'd like to share before we close out your plenary session?

COMMISSIONER CAPUTO: I think this is a very exciting time for the agency. I think the measure of change that is expected of us can be daunting but I think it's also a chance for us to embrace the opportunity. And with that challenge of change I think can inspire us to achieve more than we previously thought was possible.

So I'm very excited to be a part of that and look forward to working with everyone at the agency as we go forward.

MR. NIEH: Okay, well thank you very much, Commissioner Caputo. We really appreciate your comments.

(Whereupon, the above-entitled matter went off the record at 9:15 a.m.)