

# NRC OPERATIONS: CONTINUITY AND CHANGE

## Remarks by Victor M. McCree Executive Director for Operations at the Regulatory Information Conference - March 8, 2016

Good morning. On behalf of the staff of the U.S. Nuclear Regulatory Commission, it gives me immense pleasure to add my welcome to this year's conference. I look forward to the numerous interesting sessions and interacting with you over the next several days. I also want to thank the many people in the Offices of Nuclear Reactor Regulation and Nuclear Regulatory Research, as well as other volunteers, who contribute so much to the success of this conference.

Having first joined the NRC in 1988 as an inspector, I was honored to become the NRC's 10<sup>th</sup> Executive Director for Operations this past September. In my 28 years with the agency, I have held a number of positions that have allowed me to get to know and respect many of you from the U.S. nuclear industry, our international colleagues, and other stakeholder organizations who have joined us here this week for the Regulatory Information Conference. And, as a result, I know you share with me a commitment to ensuring the safe and secure use of radioactive materials.

I want to begin by sharing with you (and reiterating to my NRC colleagues) the priorities I shared in late September.

Because of the inevitable challenges and uncertainties that arise when there is significant change, to successfully manage change in the day-to-day execution of NRC operations, it is imperative that we focus on four priorities: our *Mission*, our *People*, our *Values*, and our *Communications*.

The NRC's safety and security **Mission** must always be the highest priority and we should carry out our work in a way that reflects our *Principles of Good Regulation* (*Independence, Clarity, Openness, Efficiency, and Reliability -- ICORE*). We should recognize that **People** are our most important asset and continue to invest in "people resources." We should demonstrate and reinforce our organizational **Values** (Integrity, Service, Openness, Cooperation, Commitment, Excellence, and Respect) knowing that our values guide our behavior. Finally, we should **Communicate** well; and actively and openly engage one another and you, our stakeholders, to create shared understanding and make good decisions.

I would also like to note that we recently received the results of the 2015 NRC Office of the Inspector General Safety Culture and Climate Survey. As with all surveys of this nature, the results give us very useful information, including indications of our

strengths and opportunities for improvement. The survey identified strengths in areas such as mission and objectives, training, and supervision. But it also highlighted opportunities for improvement in our Differing Views process, empowerment and respect, and senior management. It is important to keep in mind that our current environment is very different from the last time this survey was conducted in 2012. In the years leading up to that survey, we were a growing organization, with the promise of substantial opportunity. Since then, the agency has had to adjust the way we do business to reflect the changing environment. The challenges that accompany those changes have, in turn, affected our workplace perceptions. So it's only natural that our survey results reflect some of those changes.

As we have done in the past, we take the survey results seriously and are taking a close look to better understand the insights and identify actions to address the underlying concerns.

To reiterate, maintaining our focus on our Priorities provides important continuity, whatever the issue or challenge, and doing so is key in helping us to continue the past success we've had in fulfilling our mission.

But, it is also important to engage in constructive change. In the words of Winston Churchill, *"there is nothing wrong with change if it is in the right direction."*

Although we are not seeking to change constantly, this has been and remains a time of remarkable change at the NRC **and** within the nuclear industry. At the NRC, we are pursuing the Project Aim initiative to improve our efficiency, effectiveness, and agility so that we are better positioned to respond to future changes, while fulfilling our mission. Other changes at the NRC range from responding fully and effectively to the lessons learned from the accident at Fukushima-Daiichi, to ensuring an efficient and effective regulatory infrastructure exists to handle the increased workload in decommissioning, to subsequent license renewal (beyond 60 years), and to preparing to not only receive the first small modular reactor application this year, but also to complete the technical and regulatory infrastructure to support advanced reactor application reviews in the future. Within the U.S. nuclear industry, continuing energy market pressures affect the economics of both operating nuclear power plants and new nuclear construction. With such changes, challenges emerge for both the nuclear industry and the NRC.

My experience tells me that the U.S. nuclear industry responds well to challenges, particularly ones that could affect operational safety and security. This was demonstrated by the significant security improvements after 9/11 and the safety enhancements at U.S. facilities that have already been made in response to the Fukushima accident; including the investment in FLEX strategies to mitigate the risk associated with beyond-design-basis events. I also see safety prominently cited in plans to further improve industry efficiency and economic viability. And this is

good...because the NRC will closely follow these efforts to verify that their implementation does not have an unintended effect on safety and security.

At this point, I would like to briefly highlight several current issues of interest to the NRC, and potential challenges for the nuclear industry.

We continue to see events and conditions that indicate the need for more focus on the **control and oversight of contractor and vendor-related activities**, particularly during large-scale projects on site. I recognize that this focus area is not new to the industry, but ongoing occurrences indicate that more can and should be done to reinforce standards, expectations, and lessons learned from such events. I would also urge you to continue efforts to improve supply chain quality, particularly sub-suppliers that may not fully appreciate the nuclear safety culture.

We also continue to see opportunities to **improve knowledge management**, particularly in the knowledge of the design and licensing bases. This is evidenced in the accuracy and completeness of licensing submittals, as well as in operability evaluations. Of course, learning from what has occurred is applicable to licensing and other regulatory matters, as well as equipment and system issues. But, because of new entrants to the current nuclear workforce (including NRC staff) and given the sheer volume of licensing bases information, related NRC documents, and operating experience, knowledge management remains a challenge for the current and future industry workforce.

Finally, over the next few years, licensee attention will be needed to ensure orderly **transition to decommissioning** for several sites. For the plants that undergo decommissioning, it is important to continue to invest in equipment reliability and operator training and retention, while maintaining appropriate focus on human performance during the period between a closure announcement and the final shutdown; which in some cases spans several operating cycles. As plants approach closure, the NRC will implement a tailored oversight plan for the final phase of operations at each affected facility. In the meantime, effective stakeholder engagement with NRC in the ongoing decommissioning rulemaking will help ensure that these transitions occur in a safe, efficient and effective manner.

At the NRC, we also are **changing** as we respond to challenges to **our established ways of doing business and expectations for the future**. Shortly after I assumed my new role, I announced a number of leadership and organizational changes to streamline and refocus our efforts, and bring fresh perspectives to bear on a range of agency activities. In parallel, we have reassessed our work, identified efficiencies, and made budget reductions to reflect our declining workload.

Our fiscal year 2016 enacted budget (without the Office of the Inspector General) is 990 million dollars and 3,552 full-time equivalents (or FTE). This represents a decrease of 13 million dollars, including 163 FTE, as compared to the fiscal year 2015 enacted budget.

This 990 million dollar budget fully supports the safety and security mission of all NRC programs, and it reflects greater efficiencies in areas such as training, travel, rulemaking, and consolidation and streamlining of overhead functions.

Regarding our fees, in fiscal year 2015 annual fees for most licensees decreased. Our fiscal year 2016 appropriations provide about 883 million dollars of fee revenue, a reduction of over 12 million dollars from the prior fiscal year. We expect a continuing downward trend in fees going forward, as you will see in our proposed 2016 fee rule that should be published for comment later this month.

These staffing and budget reductions are closely tied to the larger “change” effort underway at the NRC, Project Aim; an endeavor begun under my predecessor, Mark Satorius, and Maureen Wylie, the NRC’s Chief Financial Officer.

With Project Aim, we are strengthening our ability to fulfill our safety and security mission by improving our efficiency and increasing our agility – by which I mean our ability to adapt more quickly to changes in our workload, budget, and other unexpected challenges that may come our way. This also involves a culture change affecting our people, our planning, and our processes, that will make us an even stronger and more effective nuclear regulator. We are moving quickly to implement these changes.

Overall, re-baselining efficiencies in fiscal years 2017 and 2018 could further reduce the NRC’s expenditures by over 40 million dollars. If the Commission approves all or most of the re-baselining recommendations, we expect NRC’s costs to be comparable to our costs in 2008, without reducing our ability to fulfill our mission. And as we move forward, we will identify additional ways to increase efficiency and cost savings.

You can hear more detail about our progress on Project Aim during a RIC session later today.

But, if you take away one thing about Project Aim, I hope it is this: **Project Aim is a serious effort to ensure the NRC remains a strong, credible regulator, now and in the future.** A key part of that—and the essence of Project Aim—is our commitment to our stakeholders to be *independent, clear, open, reliable and efficient* (providing the best possible management and administration of our regulatory activities, including use of our resources wisely and efficiently).

While Project Aim, and the other activities addressing change are important, **we have remained focused on our core safety and security mission** and it has been another year of important accomplishments.

This week marks the **fifth anniversary of the accident at Fukushima-Daiichi**, so it is important to remember those directly affected by the earthquake, tsunami, and

accident, as well as recognize and acknowledge the substantial accomplishments and still-ongoing efforts here at home to address the lessons learned from that tragic event. We remain focused on assuring completion of the remaining high-priority (or Tier 1) activities and are currently on pace to complete them by the end of the calendar year, in accordance with the Commission's five-year implementation objective.

As this slide shows, by the end of 2016, the majority of the post-Fukushima-related safety enhancements will be complete or transitioned into normal agency processes. Specifically, this includes implementation of the mitigation strategies order, fleet-wide compliance with the spent fuel pool level instrumentation order, completion of emergency preparedness and communications assessments, and the reevaluation of seismic hazards. Additionally, all sites, except those needing US Army Corps or Engineer input, will have completed reevaluation of their flooding hazard, and all the Tier 2 and 3 activities will be dispositioned; that is, those actions that required additional assessment, critical skill sets, or were dependent on Tier 1 activities.

Limited work in 2017 will focus on documentation of NRC staff reviews, post-compliance inspections, and issuance of the high-priority rule for mitigation of beyond design basis events. This rule will codify the most significant ongoing regulatory actions that all nuclear power reactor licensees are implementing in the United States following the Fukushima event. The comment period on the proposed rule closed in February and the staff is on schedule to deliver a final rule to the Commission for its review in December of this year.

Work continuing beyond 2017 includes completing implementation of the severe accident capable hardened vents order, which requires plant modifications in an extended outage based schedule; supplemental hazard evaluations; and development of a program for long-term oversight, to ensure the lasting safety benefit of the NRC and industry efforts to date. We will, of course, continue to look for efficiencies and creative solutions in these areas to strive toward complete implementation of all Fukushima lessons learned ahead of even today's aggressive schedules.

The NRC's initiatives have, and will continue to result in significant safety improvements at U.S. nuclear power plants.

I also want to recognize the recent successful completion of substantial licensing and inspection activities over a number of years leading to **issuance of the operating license at Tennessee Valley Authority's Watts Bar Unit 2**. This is the first operating license issued this century and the first in almost 20 years. This was in addition to issuing **combined licenses for an Economic Simplified Boiling Water Reactor at the Fermi site in Ohio and an Advanced Boiling Water Reactor at the South Texas Project near Bay City, Texas**. We also issued a construction permit to SHINE Medical Technologies for a first-of-a-kind facility dedicated to medical

isotope production. This permit is the first construction permit we have issued for a non-power utilization or production facility since 1985. These actions demonstrate that we have the capability – the organization and processes – to successfully carry out our responsibilities for safe licensing and inspection of ongoing and future new reactor and other construction activities.

While these are noteworthy accomplishments, we still face the challenge of enhancing our regulatory framework to better address **advanced, non-light water reactor designs**. There is a great deal of activity – and a lot to do – in this area. To be clear, NRC **can** license advanced, non-light water reactor designs today. But we’re working to improve our licensing infrastructure so that, if applications are submitted, the reviews can be done timely and efficiently, and in a manner that reflects our Principles of Good Regulation.

And, we are taking a number of strategic steps to prepare ourselves to do exactly that. We are focusing on technology-neutral activities, commensurate with the pace of non-light water reactor technology development and maturity, and within our budget constraints.

We plan to use the “off fee base” resources, which the Chairman just referred to in his remarks, to focus on three main areas: 1) licensing process, 2) technical preparation, and 3) stakeholder outreach. Our efforts recognize that the licensing process must ensure safety, security, and environmental responsibility, while supporting any future schedules that may be put forward for these new designs.

In June, the NRC and DOE will host the second Advanced Non-Light Water Reactor Workshop between industry and government to discuss pathways for commercialization of non-light water reactors, and to identify emerging issues and formulate possible solutions. At the same time, we are developing a strategic plan for licensing advanced non-light water reactor designs, and expect to complete it later this year. We are finalizing the proposed advanced reactor design criteria and, in response to vendor requests, are developing a step-wise licensing process for innovative designs within the current licensing framework. In addition, we are developing guidance on prototype licensing and testing, which we expect to issue for public comment by mid-year.

In the course of undertaking these varied efforts to enhance the current regulatory framework for new light water reactors and non-light water reactors, we are also keeping the Commission informed and seeking resolution of critical issues, such as annual fees, emergency preparedness, modularity and collocation, source terms, and siting proximity to densely populated areas.

Not unlike advanced reactor designs, the NRC is also ready to review an application for a **consolidated interim storage facility**. We have received two letters of intent to submit applications for such facilities, one or both of which are expected this fiscal year. While we do not have resources budgeted for review in fiscal 2016, the NRC

would reprioritize work and seek additional resources internally if applications are submitted this fiscal year.

Another challenge we have met and are overcoming has been in our **operating reactor licensing action backlog**. Our performance metrics in this area were challenged due to Fukushima-related work which competed for the same critical skill sets. Through increased management attention on timely completion of licensing actions, reallocation of resources from lower priority work, expanding the use of contract support, and other efficiencies, we have significantly reduced our backlog and are on schedule to meet our metrics by the end of this year.

The NRC and industry also took important steps over the year as we prepare for full implementation of **cyber security requirements**. Licensees completed the first phase of implementation in 2012 by completing Milestones 1 through 7, with controls put in place to address the most significant threat vectors, and the NRC independently verified those actions through inspections completed this past December. Now, we are working towards full implementation of cyber security controls, which includes completion of an expanded, consequence-based approach to assessing “critical digital assets” and will work with industry to ensure necessary Milestone 8 guidance is in place prior to licensees’ full implementation commitment dates.

Since the last RIC, we have issued a number of **important guidance documents and reports**. For example, we employed a first-of-a-kind approach, with significant stakeholder input and interaction, to develop a draft revision of the Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel. We used this renewal framework in the issuance of the Prairie Island Independent Spent Fuel Storage Installation license renewal.

Our effort to address an increased workload in **decommissioning** also has been an area of recent accomplishment and continuing challenge. Currently there are 20 power reactor units in decommissioning status. Five of those 20 have entered this status since the last RIC. This required the NRC to complete about 35 decommissioning transition licensing actions over the past year, including exemption requests for emergency preparedness and security requirements, use of the decommissioning trust fund, liability and property insurance, staffing, training, and qualifications, to name some. This is a challenging and important direction of regulatory activity that will demand continued attention in the coming years.

Of course, connected to this is our ongoing effort to develop a **rulemaking for reactor decommissioning**, as directed by the Commission in late 2014. Our goal is to develop a proposed rule for Commission consideration that provides a more efficient decommissioning process and reduces the need for exemptions from current regulations, while supporting our principles of good regulation.

We published an advanced notice of proposed rulemaking last November to obtain stakeholder input in several key areas, and held a public meeting in December to discuss the content of the advanced notice. Because of the high level of stakeholder interest in this rulemaking, we extended the public comment period from January 4<sup>th</sup> to March 18<sup>th</sup>, and the Commission will hold a public meeting on the proposed rulemaking March 15<sup>th</sup>.

One final area of accomplishment that I would like to highlight is in our **corporate support services**. We recently completed the consolidation of NRC headquarters office space, closing out satellite buildings and significantly reducing our presence in the Three White Flint North building. This action has resulted in significant savings in our rent, utilities, and security costs (which, of course, is reflected in our lower overall costs). In addition, we recently upgraded the internet bandwidth for our resident inspectors, which removes many of their connectivity impediments and allows them to spend less time at the computer and more time out in the plants focusing on their core inspection responsibilities. I'd like to thank those licensees who have resident inspectors for their support and cooperation as we completed this critical upgrade.

The accomplishments and challenges that I have highlighted today are only a selection of the wide-ranging achievements of the past year and the continuing tasks before us. All this makes me immensely proud of the people at the NRC. The work they do on behalf of the American people indicates how well and faithfully they are discharging their duties, and reflects well on our ability and willingness to address the challenges yet before us. The many conference technical sessions and poster presentations over the next several days will give you a broad view of the work we've accomplished, as well as the issues confronting us in implementing our mission.

I began my remarks by discussing our priorities, which include fulfilling our important safety and security mission by carrying out our work in a way that reflects our Principles of Good Regulation. If you've listened closely, you may note that this is the fourth time I've mentioned our Principles. But, given that this year marks the 25<sup>th</sup> anniversary of their creation, and we're in a period of such significant change, I think it's an appropriate reminder that constant vigilance and faithful adherence to our principles will enable us to continue to make sound regulatory decisions.

In closing, I feel confident that NRC has continued to do its job to regulate the peaceful uses of nuclear materials in a manner that has protected public health and safety and the environment. But, essential to this success, now and in the future, is the continued recognition by our licensees that **they** hold the primary responsibility for safety and security. This recognition is evidenced in the actions licensees take, and decisions they make, which demonstrate that safety and security is the overriding priority.

So, as we go forward, the NRC staff remains committed to continued productive engagement with our many stakeholders so that we are prepared for and can respond to change while ensuring nuclear safety and security.



Thank you for your attention. I'd be happy to answer a few questions.