



# NRC NEWS

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## **A Retrospective: A Decisive Regulator Built on a Firm Foundation**

Prepared Remarks for  
The Honorable Gregory B. Jaczko  
Chairman  
U.S. Nuclear Regulatory Commission  
at  
Platts Media Roundtable  
Washington, DC  
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### **Introduction**

Good morning. Almost exactly three years ago, in July of 2009, I gave my first major speech as Chairman at an event at the Heritage Foundation. The title of that speech was “A Decisive Regulator Built on a Firm Foundation.” That title summarized my vision for the NRC.

Now, as I’m sure you all are aware, I have recently resigned, after almost eight years at the agency. So, in a sense, that speech in 2009 and my remarks today will act as “bookends” of sorts, providing a frame from which to look at my Chairmanship and the many activities, challenges and accomplishments that have taken place during that time period.

In many ways, though, my frame of reference must go back further, to the time when I first joined the Commission, as a Commissioner, in 2005. Much has taken place since then, and I’d like to reflect today on how far I believe we have come, and how much further I believe we still must go to maintain the safety and security of the American people.

I believe that people put in positions of public trust, and charged with regulating a complex industry, should do so always with the public interest as their sole decision-making framework. That is what I have endeavored to do from a policy standpoint for nearly eight years. I worked hard to establish a very strong voting record, consistently based on public safety.

The President designated me Chairman just over three years ago. From a management perspective, I sought to make improvements to what I saw as a good organization, to make it even better and more efficient. We are fortunate at the NRC to have excellent, highly trained,

and dedicated staff. I have made it my mission during my Chairmanship to make sure that the staff clearly understands what their mission is and always has it foremost in their minds.

I replaced that regulatory perspective that said we would not be an impediment to the nuclear renaissance with one that made it clear that NRC staff were first and foremost to ensure the safety of the American people based on the best technical information regardless of what impact this might have on the profitability of the industry we regulate. Such a change in direction and emphasis has not been without accompanying disagreements, friction and push-back. But I believed strongly that it was a fundamental focus that had to be reinforced.

### **Strengthening the Safety Focus**

In my efforts to make the NRC a stronger safety regulator, I have been a transparent and constant proponent of greater public involvement, openness, and safety focus. I have expressed concern about the dangers of complacency, natural disasters, equipment degradation and performance deficiencies. Fortunately, through the years, I have worked with many dedicated staff and like-minded Commission partners who have worked to make progress on many of those issues.

During my time as a Commissioner, I was fortunate to work with highly intelligent and thoughtful colleagues, and the Commission accomplished a number of extremely important things that helped to lay the groundwork for where we are today. I'll mention just a few that come to mind.

One of those key accomplishments was the new aircraft rule, part of the NRC response to the terrorist attacks of September 11, 2001. This rule, which I initially proposed in 2007, requires that new power reactor designs address the threat of a large commercial aircraft impact. This rule was significant for safety and for the idea that new plants should have to meet a higher safety standard than plants in the past. According to the rule, plants must now be able to address core cooling capability, containment integrity, spent fuel cooling capability, and the integrity of spent fuel pools in the case of an aircraft crash. The adoption of this rule by the Commission in 2009 took longer than I would have liked, but it was critically important in light of 9/11.

Another new rule, first proposed to the Commission in 2006, enhanced emergency preparedness requirements for existing and future nuclear power plants. Numerous public meetings were held across the country during the next several years, and the new rule was finally approved last year. That rule substantially strengthens emergency preparedness and requires that plants regularly update their evacuation time estimates to respond to changes in their local population.

And during the time I was a Commissioner, there was a burgeoning interest in building new nuclear power plants across the country. The expectation was that the NRC would soon be reviewing a large number of applications for new reactors, and it was important that the agency be prepared to meet this challenge. In response, the Commission worked towards establishing a new, more effective approach to conducting licensing reviews.

I worked with my colleagues closely to establish a policy of prioritization for all the new reactor interest. Basically, the Commission established the principle that we would work first and

foremost on license applications and environmental permits that were tied directly to actual utility partners.

In 2007, the Commission committed itself to conducting mandatory hearings for applications for combined licenses, instead of having the Licensing Boards perform that function. This was new territory for the Commission, and we worked to develop procedures that would focus our attention on the most safety-significant issues, while conducting open, fair and efficient hearings. When the first mandatory hearings were held last year, for the Vogtle and Summer license applications, my colleagues and I were extremely pleased by how this process worked.

In addition, the staff and Commission were preparing for overseeing the safety and security of new plant construction through developing guidance for inspections, tests, analyses and acceptance criteria – or ITAAC. As I stated in my vote in 2010, I believe it is vitally important to ensure to the Commission and the public that pertinent information concerning the construction of a new nuclear power plant is available for review. The Commission needs this information to do its job in ensuring safety, and the public needs this information in order to feel confident that a new plant is meeting all safety and security requirements.

Of course, the NRC does not just ensure the safety of nuclear reactors, but also of nuclear materials. The National Source Tracking System (NSTS) is a centralized national registry for monitoring the location, use and disposal of radioactive materials used in industry, medicine and research across the country. In November 2006, the NRC issued regulations implementing the system, and since that time we added major updates in 2011 and Web-based additions that will be implemented later this summer. During my time as both Commissioner and Chairman, I have continually pushed for greater accountability of all licensed material, but especially the most potentially dangerous sources that are tracked by the NSTS.

Under my leadership as Chairman, after a difficult start, the NSTS has achieved great success – with the system now tracking tens of thousands of sources and managing thousands of transactions each month. This system has improved safety and security not only in the most obvious ways, but has also provided unexpected benefits, such as during natural disasters, when the system was able to provide information about the location of potentially dangerous sources.

When I started as Chairman, the NSTS was viewed as an inefficient and difficult system. Today, because of the hard work of many of the agency staff, the system is helping us effectively keep track of many sources in the United States. In addition, we have established the foundation for a true Web-based licensing system. Many states have committed to utilizing this Web-based system as part of what will soon become an integrated source management system.

### **Under My Leadership as Chairman**

Since I have been Chairman, the staff and the Commission together have made great progress, both internally to strengthen our organization and externally to continue ensuring the safety and security of our nation's nuclear facilities and materials. In the Heritage Foundation speech in 2009, I described the challenges ahead as falling into several key issue areas: the NRC's financial and physical infrastructure, its workforce, the regulatory infrastructure, the

safety and security culture, and communications and outreach. Let me briefly recap some of the tremendous progress we have made in meeting challenges in each of those areas.

### **Financial Systems and Physical Infrastructure**

The past several years have been a time of tight budgets and increased scrutiny of all costs in the federal government. I am proud of the way that the NRC has continued to focus on the critical task of how to make the most efficient use of our funds. We have worked hard on doing more with less, without impacting our ability to efficiently and effectively meet our vital safety and security mission. We have continued to improve our financial management performance, reduce carryover funding, and improve our financial reporting and financial management systems.

At my direction, the agency developed and is implementing a strategic acquisition program that will lead to efficiencies in time and spending, and a new IT system to support it that provides standardization, centralization of data, and better tools for internal and external reporting. This new contracting system has already allowed us to demonstrate great success in an important area – the NRC has received its first “A” letter grade for its excellence in small business contract performance from the Small Business Administration for fiscal year 2011. We have also made great strides in reducing agency overhead costs and finding greater efficiencies in corporate support functions.

And, in a very visible sign of our investment in NRC’s future, our new third headquarters building is now nearing completion in Rockville, Maryland. This building will again allow all of NRC’s headquarters staff to work together in one location – an issue that was recognized post-Three Mile Island as an important attribute for safety, as well as an important improvement for communications efficiency and effectiveness.

### **Workforce**

The men and women of the NRC are not only incredibly talented, dedicated and professional (as I have stated so many times over the past years) they also seem to be happy in their jobs. I am very proud that the NRC once again scored among the top tier of agencies in the 2011 Best Places to Work in the federal government rankings, scoring number one in all four major areas of evaluation. This is the third consecutive time that the NRC has been ranked among the top federal agencies. Since last year was a very challenging year for the NRC, especially with our response to the Fukushima Dai-ichi emergency in Japan, the ranking was a particularly significant recognition. I am extraordinarily proud of the outstanding job that the NRC staff has done, and continues to do, to ensure the public health and safety.

The agency has also received numerous awards and recognition for our diverse and accommodating work environment. Our strong workplace reputation is at least partially due to the new flex program, which we implemented in 2009 to allow employees greater schedule flexibility to facilitate work-life balance. And, NRC’s telework participation is one of the highest in the federal government.

As our workforce composition has changed, we have implemented a strong knowledge management program to ensure that the experience and knowledge of the agency’s senior staff is

passed on to the next generation. And we make a point of encouraging all of our employees, new and experienced, to bring their new ideas, their tech savvy, and their energy to the workplace to tackle critical nuclear safety issues.

In another workforce initiative that is particularly important to me personally, the agency has made tremendous strides over the last several years in broadening employment opportunities in our agency for our nation's veterans, and we have exceeded the targets we had set for veteran and disabled veteran hiring.

## **Regulatory Infrastructure**

Now let me turn for a few minutes to a few critical regulatory areas, where we have made great progress during the past few years ensuring that the agency's safety mission was advanced. During my tenure as Chairman, the Commission has made historic advances in licensing a new generation of nuclear reactors in the United States. We've issued revised design certifications for both the ABWR and the AP1000 plants. I'm particularly proud of the rigor of the NRC's safety review, which identified safety concerns late in the review process for the AP1000 design. We required the vendor to address those issues to the agency's satisfaction before sending the design to the Commission for its ultimate review. We've also developed additional regulatory framework, ahead of the projected need, for the review and licensing of small modular reactors, with applications expected in the next year.

We issued the first-ever combined licenses (COLs) under the new Part 52 licensing process, which included Commission-held mandatory hearings, also a first-of-a-kind evolution. These COLs, which allow both construction and operation of Westinghouse AP1000 units at the Vogtle site in Georgia and the Summer site in South Carolina, represent the first new nuclear power plant construction started in more than 30 years.

Of course, I have always emphasized the importance of maintaining the focus on our operating reactors and materials facilities, where the risk has always existed. Under my leadership, the agency was faced with significant and challenging operational issues, ranging from cracks in the containment structure at Crystal River, to steam tube generator leaks at San Onofre. We also proactively identified flooding vulnerabilities at Fort Calhoun, which improved its ability to withstand the flooding that later occurred. Due to the continued poor performance at Fort Calhoun, we are conducting heightened oversight and will not allow the plant to return to operation until we are satisfied our safety standards have been met. Likewise, Davis Besse committed to early replacement of its reactor vessel head based upon staff's concerns with the original proposed timing for replacement. Another example regarding materials facilities was the agency's handling of concerns with Nuclear Fuel Services (NFS). We ensured that NFS remained shut down until the agency was satisfied that its operations would meet our safety standards.

During my Chairmanship, I made it a point to visit the facilities that had degraded performance. This allowed me to personally deliver our agency's message that licensees should focus their efforts on making the necessary changes to ensure sustained safety performance.

Additionally, I also made it a priority to focus on long-standing generic issues which, I believe, take the agency far too long to resolve. These are issues which have the potential to

impact safety at multiple sites and therefore deserve the time and attention required to bring them to closure.

One such issue is the generic fire safety issue, often referred to as fire protection. I am very proud of the progress we have made in fire protection, moving to performance-based regulation, called NFPA 805. We completed pilot programs at two plants, and we currently have eight plants under review to resolve fire protection issues that could have the potential to affect their ability to safely shut down. In addition, the remainder of the plants have until this fall to ensure that they are in compliance with existing fire protection regulations.

Similarly, I continued to focus the agency on sump issues, known as GSI-191, and some progress, although limited, has been made. We have brought continued focus and attention to this issue, and some facilities have made progress on reducing their vulnerability in this area. The increased attention to this topic will serve the agency well as it continues to struggle with this issue.

And during this past year alone, the agency responded with an impressive focus on safety to a number of diverse and major challenges, including the accident at the Fukushima Dai-ichi reactors in Japan, and a number of severe incidents at reactors in the United States ranging from flooding, an earthquake and tornados, to damaged plant structures and steam generator problems. Looking just at the Fukushima Dai-ichi accident and the August earthquake on the East Coast with its significance to the North Anna plant in Virginia, it is crucial that we move forward in completing the seismic study now underway. We learned that, despite our best efforts to estimate the severity of potential events that facilities must be designed to withstand, sometimes the design basis will be exceeded.

In addition to reactors, I have also consistently emphasized the importance of focusing just as much attention on our materials facilities. An important step in doing this is to have a process for oversight of our materials facilities that learns from the reactor oversight process and uses it to improve our fuel cycle oversight process. I have championed this process improvement both for its transparency and for its predictability, and it is now well underway.

Another issue that has garnered increased attention in the press and amongst stakeholders over the past couple of years, is spent fuel. This issue has been lifted up by both the closure of the Yucca Mountain licensing program and by last year's nuclear accident at Fukushima. Let me first address Yucca Mountain, which, as you know, has been a very controversial and difficult issue for the agency. Last fall the NRC staff completed the orderly close out of the Yucca Mountain high-level waste repository licensing program and the Department of Energy's license application. As part of this process, the staff conducted a comprehensive effort to collect and capture knowledge to ensure that the agency's many years of technical work are preserved. This included documenting the agency's review and other knowledge about the program through three technical evaluation reports, more than 40 other topical reports, as well as videotaped interviews of technical staff. So this knowledge has been carefully protected and can be accessed as the nation moves ahead with decisions on a permanent solution to spent fuel storage.

And, as you likely know, the Commission approved revisions to the "waste confidence" findings in 2010, which affirmed that spent fuel can be safely stored for at least 60 years beyond the licensed life of any reactor, and that sufficient repository capacity will be available when it is

necessary. Recently, the D.C. Court of Appeals informed the Commission to go back and try again on our approach to dealing with that issue – particularly as to our environment approach. Fortunately, the Commission was actually already on its way to doing this. When we issued the waste confidence decision, the Commission asked the staff to go forward with an environment review, looking at a longer timeframe about what kinds of challenges they could see with spent fuel and spent fuel storage. This court decision may just change the timeframe and the timing, and accelerate some of that work. Ultimately, I believe this is an issue that the Commission will have little difficulty addressing.

## **Fukushima Response and Lessons Learned**

A look back at the events and the accomplishments of the past several years will, of course, always be done against the backdrop of the nuclear accident in March 2011 at Fukushima Dai-ichi in Japan. In addition to the tremendous agency efforts throughout its round-the-clock monitoring activities, at the request of the Japanese government, the NRC also sent a team of technical experts to provide on-the-ground support to the U.S. Ambassador in Japan.

The Fukushima Dai-ichi accident was clearly one of the most significant events in the history of nuclear power. Consequently, not only did we work to help the Japanese people and government, but we also needed to undertake a systematic and methodical review of our own regulatory framework to determine whether changes need to be made here, to make sure such an accident would never occur in the United States.

The Near-Term Task Force, established by the Commission two weeks after the earthquake and tsunami, reviewed the insights gained from the accident, and in July presented comprehensive recommendations to strengthen nuclear safety. They did an exemplary job, and the Commission then took up those issues. We set a goal of completing all actions that should be taken without delay, in response to the lessons learned from Fukushima, within five years, by 2016. I still believe this is realistic, and still firmly believe the Commission and the industry can, and should, meet this goal.

The NRC has done a tremendous amount of work on Fukushima Dai-ichi-related issues, but there is still much to be done. I was incredibly proud of the NRC staff throughout the Fukushima response and so impressed by their tireless dedication, their resolve and their resilience. It was surely one of their finest hours.

## **Safety and Security Culture**

Another accomplishment that will always stand out to me is the development of the Safety Culture Policy Statement. I believe the statement is a testament to a very broad and diverse group of stakeholders coming together to find common ground, founded on a shared commitment to safety. I can tell you personally that when the Commission initiated the process to develop the Policy Statement more than four years ago, I never anticipated the consensus we would achieve. At the time, many people thought that there were too many stakeholders, with too many different perspectives, to be able to reach meaningful agreement or make progress. Even as optimistic as I was, I did not anticipate the broad spectrum of stakeholders – from our licensees to some of their strongest critics – who today actively support the policy statement.

I believe that is a tremendous accomplishment. In my early years on the Commission, I often spoke of the importance of building public confidence in the agency and its decisions, even if we did not expect public agreement or acceptance as a matter of course. The development of the Safety Culture Policy Statement clearly demonstrated that we can go beyond public confidence and gain public acceptance, even on a highly controversial issue like safety culture.

This very important outcome underscores my belief that, if the public and stakeholders are proactively engaged at an early stage, and involved in a way that gives them a sense of ownership over the process and its ultimate decisions, we can work together to make tremendous progress on safety.

## **Communications and Outreach**

So this brings me to another key issue area: the importance of effective communications and public outreach. In order to be effective, I believe that a regulator needs to work toward two important goals: policies based on sound science, technical, and regulatory decisions, and public confidence in those policies to implement them in the most effective way possible. Stakeholder involvement is absolutely critical in achieving both of these goals.

During my tenure, the agency has undertaken a number of Open Government Initiatives, as well as greatly expanded its use of social media, including an external blog as well as Twitter and YouTube accounts. We found the public blog to be especially helpful in disseminating information quickly during the Fukushima response last year. And we strengthened our public outreach by redesigning the agency's public website to make it more user-friendly, and substantially improved our Web-based document management system so that the public can more easily and quickly access public documents.

Since 2009, we have trained NRC staff members from across the agency to act as meeting facilitators as part of the NRC's In-House Meeting Facilitator and Advisor Program. The facilitators assist with approximately a dozen meetings each month—part of the more than 1,000 public meetings that we notice in a typical year.

Looking forward, the NRC like most government agencies, will need to continue to find more and even better ways to communicate, collaborate and share information, internally as well as externally.

## **Looking Forward**

Standing here today, how do I feel about the future of the agency and the industry? I think I would say that I have a sense of tempered optimism. I used to say the one thing that kept me up at night was the thing we hadn't thought of. Today, the things that keep me up at night are those things we know we haven't addressed. That is the challenge and the charge for a new leader to take up.

With regards to the post-Fukushima safety changes, we have clearly established what needs to be done. Now the Commission must summon the courage, the will and the determination to enhance the safety of nuclear power plants in this country and to move forward with urgency, even when the spotlight moves on, as of course it will.



When I walked up to the White House podium on March 14, 2011, three days after the Japan earthquake and tsunami, I knew the question would boil down to “Are our plants safe?” and I would have to answer that. People were questioning everything they thought they knew about the industry and its risks. I decided the best and most honest answer I could give at the time, based on my years at the agency, my understanding of our regulatory system and my faith in the NRC staff was this: “Yes, I believe we are safe.”

And then I gave the American people a solemn commitment—that we would thoroughly investigate and learn the lessons of Fukushima, and if we needed to make changes to ensure that continued safety, we would make them without delay. It is that second promise that has animated me since March of 2011. We learned that we need to make changes. We know now what we need to do, but we have not yet done it.

I believe that we must continue to push steadily ahead to make the safety enhancements that our most senior staff decided we must make and we must continue with our commitment to implement these lessons within five years. It is now up to my successor to carry the torch over the finish line.

## **Summary**

My years of working with the outstanding men and women of the NRC, to ensure the safety and security of the public, will always be one of the highlights of my life. I have been deeply honored to have served in my capacity as Commissioner and Chairman of the agency. The many successes the agency has achieved during my tenure would not have been possible without the hard work and dedication of the agency’s staff, as well as that of my personal staff. Some of these more detailed accomplishments follow:

## **AGENCY ACCOMPLISHMENTS**

### **Financial and Physical Infrastructure**

- Over the past two fiscal years, we decreased carry-over funding from approximately 6% of new budget authority to just over 2%. This is due to our improved budget execution planning strategies, including aggressively reallocating unobligated monies, promoting timely return of excess funding, and maintaining an accurate current estimate.
- We enhanced our reporting capabilities for contracts, travel funds, salaries and benefits through the implementation of a new core financial system and upgrades to the human resources management system.
- Chairman Jaczko delegated his authority to approve acquisitions valued at greater than \$1M to NRC staff to bring the process in line with the best practices at other federal agencies.
- We fixed the NRC’s contracts acquisition process by implementing an agency-wide approach that will lead to efficiencies in time and spending as contracts are put into place in anticipation of needs and the agency can leverage total spending to negotiate better prices.

- We accelerated the modernization of the NRC’s financial system by consolidating our fragmented approach into a single business solution in 2010, following months of development and training efforts across the agency. This new process provides real-time financial information within a Web-enabled system with flexible reporting tools. Consolidated, accurate, and consistent data, combined with robust reporting, provides the agency with significantly improved financial decision making and management.
- The NRC headquarters major infrastructure priority, the new Three White Flint North headquarters building, remains on budget and on schedule to open by the end of 2012.
- Additionally, our staff oversaw new construction and sorely needed renovations in all of our regions and our existing headquarters, enhancing security measures and utilizing green energy technologies to reduce waste and use.
- We greatly modernized our information technology usage, launching a web-based document repository to improve access for public stakeholders.
- The agency introduced new identification badges that provide enhanced security features for all employees and contractors, and upgraded the physical access control system for compatibility.
- The NRC successfully integrated ‘Work from Anywhere’ capabilities by promoting greater use and support for portable technology. We made WiFi service available on mobile desktops at our headquarters, expanded “Bring Your Own Device” abilities for agency e-mail, and launched a laptop program offering a dockable computer that NRC staff may use at the office, at home, and on travel.

### **The NRC Work Force**

- During Chairman Jaczko’s tenure, the NRC received numerous awards and recognition for our diverse and accommodating work environment. Federal Employee Viewpoint Survey results ranked the agency as the #1 Best Place to Work in Federal Government in 2009 and 2010, and in 2011 we remained the highest rated in the four critical categories of leadership and knowledge management, results-oriented performance culture, talent management and job satisfaction. The Partnership for Public Service also rated NRC as the #2 Best Place to Work among large federal agencies in 2011.
- Success of the strategic acquisition efforts was recognized when the agency received its first “A” letter grade for its excellence in small business contract performance from the Small Business Administration in 2011.

- The Chairman’s continued focus and support of the agency’s diversity efforts were recognized when the agency won numerous awards for diversity, such as: Best Diversity Company for 2011 and 2012 by Diversity/Career magazine readers; a Top 20 Government Employers for Workforce Diversity magazine for 2011; a Top 50 Employer for Woman Engineer magazine in 2012; and a Top 20 Government Employer for Careers & the Disabled magazine, 2012; to name but a few.
- During the Chairman’s three-and-a-half years, the agency also was recognized as “Best in Class” for NO FEAR ACT training by the Office of Personnel Management, and as a “Model EEO Workplace” by the Equal Employment Opportunity Commission.
- Our strong work-place reputation is partially due to our new flex program, which the Chairman implemented in 2009 to allow employees even greater schedule flexibility to facilitate work-life balance. NRC’s telework participation is one of the highest in the federal government.
- The NRC’s internal communications structure was greatly improved through employee engagement and increasing cross-agency interactions.
- Our knowledge management initiative grew with several successful programs. Chairman Jaczko championed the use of the NRC Knowledge Center, leading to collaboration on training and staff development methods that reduced training competency time from 24 to 18 months, saving an estimated \$37 million in 2010 alone. Additionally, we convened an agency-wide Knowledge Management Steering Committee consisting of top executives from each NRC office and region to develop policy and strategies for a short- and long-term knowledge management program. We held an NRC Knowledge Fair to showcase and share knowledge management techniques across the agency which was attended by over 30% of NRC staff.
- This successful initiative has earned wide recognition and we have been asked to provide input on outsiders' knowledge management programs. We have given presentations to 11 federal agencies, several industry groups, the Japanese, the United Arab Emirates and the International Atomic Energy Agency on our efforts, and we received the 2010 Merit Award for excellence in encouraging collaboration and transparency in government.
- The agency made tremendous strides in broadening employment opportunities in our agency for our nation’s veterans, exceeding our targets in veteran and disabled veteran hiring. To better assist these new hires, our supervisors have completed training on the Veterans Employment Initiative.
- We ensured the agency planned for its critical workforce needs by employing strategies designed to find and recruit highly-skilled staff in varied and specialized technical disciplines where we know the need will exist and/or grow in the years to come.

### **Safety and Security Culture**

- We completed and are now implementing a Safety Culture Policy Statement, integrating key goals as determined by staff. The agency will likely consider whether regulations based on this statement should be enacted during implementation.

- In the last three years, the agency undertook major efforts to improve the enforcement and inspections of reactors. These included completing a pilot test to determine impacts of radio jamming on plant guard force response efforts, developing guidance to ensure that underground passages at nuclear plants are not used to circumvent the plant's intrusion detection system, drafting specific evaluation standards for a revised Baseline Security Significance Determination Process, and instituting a Security Information Forum review panel to ensure that potential enforcement of findings is applied consistently and predictably.
- We made the inspection and enforcement process more accessible to the public by clarifying our adjudicatory rules based on public input and making our enforcement policies more reader-friendly.
- The Chairman initiated improvements to our alternative dispute resolution (ADR) programs by instituting a comprehensive review of our ADR program and ensuring ADR has the same type of structure as other aspects of enforcement.

### **Regulatory Infrastructure**

- The Chairman's three-and-a-half years saw a continued and aggressive focus on the agency's effective oversight of operating reactors. Inspectors identified potential flooding vulnerabilities at Fort Calhoun, and identified performance issues as a result of a fire. Because of these issues, the agency implemented the use of an enhanced oversight tool known as Manual Chapter 0350 to ensure appropriate corrective actions are in place before the site can resume operation.
- Similarly, the staff took action to ensure the licensee committed to early replacement of the second replacement Davis Besse reactor vessel head when the staff became concerned at the ability of Davis Besse to operate safely until the licensee's proposed schedule for replacement.
- The agency has provided continuing oversight at Crystal River from concrete delamination due to maintenance activities associated with replacement steam generators. As a result, the staff has delayed their review of a potential license renewal until the licensee repairs the containment structure to a safety level consistent with its design basis.
- When San Onofre discovered issues with its steam generator tubes, the staff initiated an in-depth inspection of the steam generators as a result of the early and unanticipated degradation of the reactor coolant barrier. The staff will require a clear understanding of the causes of the degradation, and appropriate corrective measures, before the facility can earn the agency's approval to restart. In the meantime, the agency has publicly and transparently engaged stakeholders to ensure that our actions and next steps are fully understood.
- The Chairman has often spoken candidly and publicly about evidence of declining performance by licensees. In response to the performance issues, there has been an increasing need for the agency to conduct more in-depth and focused inspections because

of increased risk-significant issues, with more than a dozen every year since 2009 and almost two dozen in 2011.

- When concerns were raised about the reporting requirements for the release of patients who have been treated with therapeutic amounts of radiopharmaceuticals, the Chairman directed the staff to re-evaluate reporting requirements and present the Commission with a policy paper with options on revising requirements. The regulation for such release is decades old and some stakeholders were concerned that this may result in higher-than-expected doses to members of the public who were near the treated patient. In its proposal, the staff identified that there were gaps in the data supporting the current patient release approaches used by doctors. The Commission directed the staff to obtain information that would close those gaps and help to determine whether our regulations are in fact as protective as we think they are in the case of released patients.
- Strong oversight of radioactive materials and facilities continues by the NRC and state regulators. This is well on the way to being enhanced in the form of a 2010 Commission decision for a more risk-informed and performance-based fuel cycle oversight process.
- Chairman Jaczko continued to encourage the staff to consider improvements or changes to the reactor oversight process. These initiatives led to frequent discussions about this issue and strengthened the staff's core understanding of the use of performance indicators.
- As a result of continued issues surrounding the release of tritium, and other unmonitored releases of radioactive elements from licensed facilities, Chairman Jaczko directed the staff to evaluate the adequacy of the NRC's oversight of these releases. Several papers were presented to the Commission regarding recommendations in this area and the information gathered by the staff on this important issue has collectively improved the agency's understanding of the issue.
- Throughout his tenure with the NRC, Chairman Jaczko continually pushed for greater accountability of all licensed material, but especially the most potentially dangerous radioactive sources. Recently, the NRC has successfully implemented the National Source Tracking System (NSTS), and approximately 1,400 licensees possessing over 75,000 Category 1 and 2 sources have used the system since that time. The NSTS is notably important because it is nationwide – including NRC licensees but also the sources regulated by our state regulatory partners. NRC has continually looked to improve the system, for both regulators and licensees, including major updates in 2011. Since its implementation, the NSTS has been used in both normal situations and in emergencies to ensure accountability for the most dangerous sources.
- In 2010, the NRC initiated an additional improvement to its license tracking system, which increases our ability to verify that radioactive materials are being used safely and securely. Future upgrades and expansions of these accountability systems are on track to provide improvements to the system via the Web, and further enhancing license verification capabilities. As is so critical for matters of radioactive materials security and safety, the license tracking system is designed so that it can be used by any state regulator to manage licensing and inspections in their jurisdiction.

- One of our greatest achievements was promulgating performance-based regulations for fire protection. Since their issuance, we have completed pilot programs to determine feasibility. Eight plants are currently under review to resolve fire protection and emergency core cooling systems safety issues and we anticipate completion soon.
- We effectively put the resources and infrastructure in place for a new reactor review system that culminated in the issuance of the revised final design certification rules for the Westinghouse AP 1000 and the ABWR reactor designs in 2011, and the combined licenses for the new Vogtle and Summer reactors in 2012.
- Under Chairman Jaczko's leadership, the Commission conducted its first mandatory hearings for new reactors with the Vogtle and Summer license applications. The mandatory hearings were regarded as a great success both for transparency and for increasing the Commission's focus and understanding on the issues surrounding each application.
- With the first two new reactors being built in over 30 years, the agency began implementation of a new construction reactor oversight process and made sure that there is infrastructure in place to support our inspectors in the field. Both the Vogtle and Summer sites have permanent construction resident inspector staffs to address potential safety issues as they arise. As a result, our inspectors were able to move quickly to address important safety issues at both vendor sites and the newly licensed Vogtle and Summer construction sites with excellent support from regional and headquarters technical staff.
- We worked hard to get prospective licensees to focus on high-quality applications. One means of doing this was to encourage pre-application meetings and site tours with applicants for uranium recovery installations. When the agency did not feel it was receiving the information it needed, we publicly and transparently communicated those needs to the applicant, such as the agency's press release regarding our inability to move forward on Westinghouse's AP1000 application until we received adequate documentation to support the design.
- The NRC staff, under Chairman Jaczko's direction, proactively conducted extensive stakeholder outreach for post-Fukushima recommendations, orders and guidances which has helped both expedite agency action and substantively involve stakeholders.
- From the outset of Chairman Jaczko's tenure, the agency has actively pushed to find an approach for earlier movement of fuel from wet to dry storage. The dangers of inaction were highlighted even more by the accident at Fukushima. The agency has since undertaken a study to reassess whether earlier movement of spent fuel to dry storage is necessary and is on course to present results by the end of 2012.
- The agency has initiated a cancer study, with the help of the National Academy of Sciences, in an effort to update and improve the agency's knowledge about cancer incidence rates around nuclear facilities. The last study, conducted more than 20 years ago, was limited by its reliance only on cancer morbidity and only in certain geographical

areas. The new study will help facilitate a broader understanding of more recent data regarding cancer incidence rates.

- The accident at Fukushima has highlighted the importance of having risk tools developed and available before problems occur. To meet this challenge, the NRC launched such an assessment for Vogtle Units 1 and 2. I also established a task force led by Commissioner Apostolakis to explore ways to incorporate more risk insights into our regulatory framework.
- Efforts are underway to further examine low-level waste disposal, including addressing depleted uranium disposal, risk-informing regulations and blending, which is an issue that the Chairman specifically brought attention to in 2009.
- The agency finally updated its 1981 policy statement on volume reduction and low-level radioactive waste management. There is now specific guidance for licensees to consider all waste management strategies, not only volume reduction, when determining how to manage low-level radioactive waste.
- We finalized a cyber security inspection program for operating new power reactors to ensure compliance with new regulations. Among these were two rules to enhance security at materials facilities and emergency preparedness requirements. We also established the NRC Cyber Assessment Team to assess and evaluate cyber-related issues which may impact the industry, and instituted an industry outreach program to address questions about new regulatory requirements.
- We developed a memorandum of understanding with the Federal Energy Regulatory Commission that addresses how the agencies will cooperate on cyber security issues.

### **Communications and Outreach**

- The Chairman established expectations for a strong and consistent response to a Presidential Directive on Open Government, and the agency was ultimately recognized for its excellence in its open government activities.
- The agency has, under Chairman Jaczko's leadership, increased its participation of non-licensee stakeholders in its Commission meetings and discussions of important policy initiatives.
- The NRC greatly improved and modernized our communication tools with the public, establishing new ways to interact. We redesigned the agency's public website to improve navigation and content, and are now successfully utilizing new social media tools to enhance outreach and increase our audience, including a public blog, Twitter and YouTube accounts.
- Since 2009, we have trained 24 NRC staff members from across the agency to act as meeting facilitators as part of the NRC's In-House Meeting Facilitator and Advisor Program. Program facilitators assist with approximately a dozen meetings each month, ranging from internal meetings to public workshops.

- In 2011, NRC revised a management directive to clarify the NRC's policies with respect to closed meetings. Specifically, we sought to more clearly define what constitutes a meeting and to ensure that certain closed staff meeting notices and summaries are both accessible by the public and issued in a timely manner. We also addressed improvements in participation technologies and clarified sign-in sheet usage.
- We are currently developing public meeting feedback forms in an electronic format for smartphones to make public input even easier.
- The NRC continued to engage with the international community to address the safety and security of radioactive sources and materials through active participation in the International Atomic Energy Agency (IAEA) and other influential organizations.
- As part of these efforts, we are educating other nations on best practices for safety and security of sources, holding workshops for officials in Georgia, Ghana, the Dominican Republic, and soon Tunisia. We also continue to establish a means for sharing source receipt information with Canada.
- Chairman Jaczko was offered and accepted the role of Chairman of the Multinational Design Evaluation Program (MDEP).

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