



# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**

Office of Public Affairs Telephone: 301/415-8200

Washington, D.C. 20555-0001

E-mail: [opa\\_resource@nrc.gov](mailto:opa_resource@nrc.gov) Site: [www.nrc.gov](http://www.nrc.gov)

Blog: <http://public-blog.nrc-gateway.gov>

---

No. S-12-009

## **A Regulator's Perspective on the Challenges of Today and Tomorrow**

Remarks of  
The Honorable Gregory B. Jaczko  
Chairman  
U.S. Nuclear Regulatory Commission  
at  
Nuclear Energy Assembly  
Charlotte, NC  
May 23, 2012

Thank you for the introduction. I appreciate the opportunity to be here. I wanted to talk with you about a number of topics – some challenges, some issues which I think are important for us to look at and address right now, nuclear issues.

As I'm sure many of you know, on Monday I indicated that upon the nomination and confirmation of a successor, after eight or almost nine years of service at the NRC, I would move on to other opportunities, to continue to pursue my passions of working in the public interest. So I don't intend this to be my last speech, but there are some things I want to talk about that are, perhaps, maybe more forward-looking, and a little bit higher-level than other speeches that I've given in the past.

I think it's very fitting that this conference is being held in Charlotte, which is close to the Summer site, where I happened to visit yesterday. And I got an opportunity to see the work that's ongoing, as they look to develop one of the first new reactors for construction in a long time.

It was a very good visit for me. I had an opportunity to see the work that's going on, and the progress that's being made. It also reminded me of the challenges that we face, and the complexity of overseeing, from a safety perspective, the construction of a large project like the Summer AP1000 units.

One of the pleasant surprises for me was really the fulfillment of a long Commission policy, a longstanding Commission policy, towards true standardization. As I was hearing presentations by the staff at Summer, almost in every sentence or in every statement about an activity or an action that was being taken, it was clear that it was closely aligned with the work that was going on at Vogtle.

For many, many years, the Commission had worked to adopt a change in our regulatory system that would encourage standardization and would ultimately lead to a more effective nuclear regulatory program, and ultimately one that's more easily enforced, inspected, and overseen. And I think we've seen that early on, with issues that have been identified from a construction perspective. We're seeing standard approaches and standard resolutions to those issues, which I think is extremely important. And so that was a positive thing for me to see. It was that visit to Summer that I was able to couple with this speech today, and it was a good opportunity for me to be able to see that.

I want to try to briefly touch on four topics, and then I'll take any questions that you may have. Of course, I want to give you an update on where we stand with Fukushima activities, and I think it's always important, before I really delve into those, to just give a sense of the framework of where we are with plant performance right now.

I'll talk a little bit about risk, and the use of risk, on some issues that I think are important for us to finally tackle and address. And then I want to leave you with some thoughts about what I think are the low-hanging fruit, and where we stand with the low-hanging fruit when it comes to nuclear safety issues.

Finally, given the launch of the Facebook IPO, just last week – I'm going to talk a little bit about public communication, public interaction, and some issues that I believe we can look at to ultimately make you more effective in communicating with your communities and the public around the facilities that you own and operate.

As I said, the first topic I want to touch on is Fukushima, where we stand with issues. In general, I think we've made tremendous progress. We have issued a number of orders for the first set of recommendations that we believe are important and appropriate to address the lessons that we've learned from Fukushima.

But as I said, I want to put that in the backdrop of where we stand with a number of other issues, and a number of issues of plant performance. Right now, we have three plants in Column 3 of our Action Matrix. We have one plant, one unit, in Column 4 of our Action Matrix, and one plant in Manual Chapter 0350. So we have all of these activities and efforts in progress, on the way, from Fukushima, but we're doing that in that backdrop of the important responsibility to continue to ensure the safe operation of nuclear facilities in this country.

And that creates challenges. It creates difficult choices about resources, and it creates difficult decisions about allocation of personnel and focus and detection -- all of the challenges that many of you have as managers of large organizations. And, certainly, that we have at the NRC as we manage goals and responsibilities to ensure our oversight responsibilities, and at the same time, to look at the issues from Fukushima.

So if you haven't heard this message from me enough, it just enforces in my mind the importance of when issues are identified, that we work in a timely way to resolve them, because new issues will continue to appear before us. I'll touch on that a little bit later but it – does reinforce

the need to move forward in a proper and timely way. And I continue to emphasize and stress the importance for the Fukushima actions that we look for ways to move forward and resolve these issues in a timely way.

I have put out there five years as a target. Clearly, that is a challenge. It is an aggressive target. But I would also say that I think there are very few people in this room who would say that 10 years is the right timeframe. I think it's fairly safe to say that 10 years is probably too long. So somewhere in the middle is the right answer, and somewhere in this room, in the NRC, with the members of the public, are the ways that we can get to those answers in a timely way.

As I said, I think we're making good progress. We have issued a number of orders. We have issued information requests, and I'll touch on those a little bit later. We have also issued two advanced notices of proposed rulemaking for two very significant issues: one involving changes of our regulation to deal with emergency response, and the other dealing, of course, with probably what is still the most significant technical issue associated with the Fukushima accident, and that is long-term station blackout, and how we can better cope with long-term station blackout in the future.

So while a lot has been made of the orders that we've issued, the rulemaking work, and particularly the station blackout rulemaking work, will really be a driver, I think, in the safety enhancements that are going to need to be ultimately made to address that issue.

July will be a big month, and then the late summer will be key for tackling, really, the next wave of major recommendations in the Fukushima effort. We will have two significant activities coming in front of the Commission in the end of the summer.

We're expecting proposals from the staff in July, and those have to do with the efforts to put more detail into the schedules for the Tier Two and the Tier Three set of recommendations that we identified for the Commission that the Commission prioritized.

We're expecting to get proposals on those this summer, so it's a reminder that there is more work to be done. We have not identified and finalized the level of detail for all of the important issues that we need to address.

The other issue, which I think will be a very novel issue in many ways, and a novel policy issue for the Commission, albeit not a new policy issue -- but certainly it will be novel in light of the accident at Fukushima and the state of our current regulatory program and our regulatory infrastructure -- and that's how we address or approach the issues of off-site contamination effects.

During our Regulatory Information Conference, I had the opportunity to listen to a presentation that was given by former chairman Diaz, talking about this issue in many ways. And what I heard him say then was stressing the importance of understanding of what, in many ways, were the most significant impacts from nuclear incidents over the years, and that has been the socioeconomic impacts.

That is a challenging issue for a regulatory body to try to address and incorporate, but I think if we listen clearly to what the public is saying after these incidents, it is clear that socioeconomic issues are extremely important, and that in many ways, if we have built in a system of defense-in-depth, it will be those issues that we are struggling with and dealing with after an accident. And so these are issues that we need to tackle, that we need to address, and somehow ensure that we are incorporating properly into our regulatory program. If that means changes to our statutory mandate at the NRC, then I think that's something that we should consider. But I think there are still many ways to look at these issues within the context of our existing regulatory programs.

So that is probably one of those new issues, in a way, that came out of some of the discussions and the thoughts after the accident that wasn't necessarily identified initially as one of the important lessons to be learned.

As I look at some of these challenges, and if you look at existing plant performance, you look at the Fukushima issues that we have to address, it's clear – and I want to turn to my next topic, then – that we need to continue to enhance our use of risk information, and of risk tools in our decisionmaking. But I think this needs to be done in some important ways.

One of the most important issues that I think we need to come to some recognition, and I think harmonization and convergence on, is why are we doing this? Given the ways we've used risk tools in the past, they can often be perceived as a tool to eliminate the need to address problems, rather than what I think is a better way, which is a tool to identify problems.

Risk tools are extremely valuable in helping us sift through what are now very complicated machines and very complicated systems, namely the nuclear power plants that we regulate and that many of you operate or work at, or support, through your services and other maintenance activities. These risk tools can help us see things that we can't see with our limited ability to perceive problems in a serial way.

Through the use of these computer tools, we can ultimately put together complex systems and come out, perhaps, with insights that were not obvious previously. But as I said, these tools are not ultimately, in my mind, most useful as a way to then eliminate problems. But they're there to help us best determine how to use resources, the true finite resources that we all know exist, whether it's the federal government, whether it's in the facilities that we oversee, or just in general in the consulting world, the expertise that is out there.

So the risk tools are extremely important, but we need to use them in the right way, and ultimately we need to make the investment today in these tools and the infrastructure so that they are available when we need them.

I can't help but talk about Fukushima issues when I think about this issue. One of the biggest challenges that we are addressing right now is the impacts of external hazards, seismic of course being the primary driver.

And as I look at the Fukushima issues, one of the drivers for schedules, one of the drivers to make progress on the external hazards issue, is the time it takes to develop the more sophisticated analysis techniques to develop the risk personnel or the risk tools that will be needed to properly address these seismic hazards. And certainly in the staff's mind, that's really the right framework from which to look at these issues.

The drivers for the schedule, in many ways, is the fact that we don't readily have available those tools, the personnel, to go out now and just complete the analysis. We have to take time to develop the infrastructure, and after an event like Fukushima, that's too late for that kind of work.

So it seems that we always find ourselves in a situation in which, when we need the risk tools, we haven't done the work ahead of time to have them available when we need them, so they don't provide the kind of benefit that they could to help us resolve issues, to help us work through issues, to help us prioritize, to help us identify what ultimately are the right kinds of solutions and the best way in which to ensure nuclear safety.

And we need to look at GSI 191, the issue of sump clogging and recirculation. This is an issue that's been around for a long time, and many people have now come forward and said "Well, the risk solutions are the right way, ultimately, to address this issue." South Texas Project has taken the lead on developing a risk approach to deal with GSI 191. But again, I think if we look at this in the way of the risk tools being a way to eliminate this as a problem, I think we're missing an opportunity to enhance safety.

But nonetheless, it's too late, ultimately, to have used these tools, brought these tools to bear on this particular issue. It's now been almost eight years since this issue was brought in front of the Commission. I have worked for a number of years, as a Commissioner and as Chairman, to bring this issue to resolution. And it's almost as if you're starting at the beginning now, and going to tackle it from a risk approach.

Now in the end, I think there's some promise in that approach, but I can't help but think that if that approach was on the table six or seven years ago, maybe that issue would have been resolved and addressed and put to rest by today. So I think the challenges, with the resources that we have in front of us, the challenge, really, is to figure out how we develop the personnel, the technical tools, that will allow risk to be used more fully in the regulatory program and the decisionmaking that you have.

The reason, I think, that this is so important, is that in many ways, the low-hanging fruit has already been picked. The problems and the issues that will be identified in the future in nuclear safety are not the low-hanging fruit. They are the technically complex and challenging issues that may often, in many cases, involve very low-probability, high-consequence types of events that are very difficult to characterize and very difficult to determine a correct path for resolution.

In many ways, the easy problems have been solved, but it's ultimately those issues that are going to drive nuclear safety into the future. If we have an accident, it is invariably going to be something that we didn't identify, something that was considered an unlikely event or a low probability event, but it is something nonetheless that could have significant consequences.

So as we look to the future, I think it's very important that we continue to recognize the fact that these issues are going to be difficult, and they are going to be challenging. But there will be issues that we identify, invariably, and the more proactive we are in looking to identify those issues through analysis, through the use of risk tools, through proactive efforts in nuclear safety, the less likely it is that we will have to deal with these lessons learned after accidents have happened.

I think that's a very challenging issue for us, because at the agency we have to continue to make sure we maintain oversight over the facilities. You have to continue to ensure safe operation of these plants. But we need to continue to look forward, to try and identify problems before they become incidents, before they become accidents.

It will be very difficult, because these are going to be some of the more low-probability and potentially high-consequence types of events that become difficult to accept when we are operating with high capacity factors, when some plants may be operating very well, you don't see the likelihood of some type of very difficult, very challenging scenario developing in which many, many layers of safety systems fail.

But we are not yet at the point where we can completely rule out the possibility of accidents, and we may never get to that point. Certainly if we could, that would be the perfect solution, but until we get to that point, we have to continue to be forward-looking. We have to continue to make the investments now in the kinds of infrastructures that will allow us to identify those issues and be successful.

Now, that brings me to my last point. I saw the video that was done, and produced, and it was a very nice video, and not just because I was in it. But one of the things it tells me is that communication is really important, and communication in this area cannot be done enough. It's important to keep in mind that the communities around nuclear power facilities, the communities and the states that host nuclear facilities in the nation, and really the world at large, when it comes to nuclear safety, when it comes to support for nuclear technology, if there is one thing that I have learned in the many years that I've been associated with this, it's that the views of society when it comes to nuclear technology are very fickle. While support may be high at a certain point in time, the strength of that support is never very strong. So public outreach and public communication are extremely important.

As I said, I wanted to talk about this in the context of the recent Facebook IPO – not that I was involved in that in any way. But I think this is a good reminder that there are many tools available right now for public outreach and communication. Sometimes face-to-face meetings are one of the best, and I'll give you a personal example. I happened to visit San Onofre about a month or so ago, and did a press conference. I did a number of meetings.

And there was a group of people I met with who were very strongly opposed to the facility. One of the things that they brought to my attention was very simple request – maybe not an easy request, but it was a simple request. They said to me “can't we get real time effluent data from nuclear power plants?”

You know, after I left that meeting, I got online on my smartphone, and I went on the NRC website and I started searching around for the requirements that we have for real time reporting for effluent data. And it dawned on me that, in this age of technological sophistication, where I can walk out of the meeting and get on a device that's about the size of my hand, and get access to all the wealth of data and information instantly from the NRC, that there are so many more things that could be done to communicate information about nuclear power plants using all these tools.

I mean, I can ask you, how many of you have Facebook pages dedicated to your nuclear facilities? How many of you report real time effluent data? How many of you make that available on a website, on a Facebook page, or on other types of social media, so that people can access that information and see the data?

So this is just a very simple example, and it's one that I challenge all of you to think about. Think about ways that you can use these technologies to reach out to a broader community, to provide this kind of information, to make these kinds of things available. There's absolutely no reason why we shouldn't have real time reporting of effluent data. It helps to eliminate misinformation, miscommunication, misconcerns about different types of incidents.

We can look to an incident about a year or so ago at, I believe, Beaver Valley, where maintenance activity was ongoing and they had their containment open, they were making major equipment installations -- I'm sorry, it was at Three Mile Island, not Beaver Valley.

And there was a minor contamination effect, and several of the workers who were doing that were required to leave the area because of some minor contamination. They got on their cell phones, they called their family members indicating that they had been contaminated, that it was not at significant levels, but they had to leave the facility.

Well, that quickly became reported as "Workers forced to evacuate nuclear power plant because of contamination." I was very quickly on the phone. I was getting calls from the Governor of Pennsylvania, wanting to know what was going on at the facility and what was happening.

This kind of situation could have been helped by having more real time information available, that reporters could easily access and get to, to know exactly what was going on. And of course, at that time, we would have quickly identified that the facility was shut down in a maintenance outage, and of course that there was not any likelihood of significant contamination as a result of that configuration.

So these are some issues to think about as we go forward. I cannot help but emphasize the importance of public communication. And in many ways, what I see in the communication is the NRC being out front and proactively meeting with communities, meeting with stakeholders. And I think we need to see more of the facilities themselves out front and engaging, so that the NRC can continue to do what it does best, which is to do our oversight and our responsibilities, and communicate our role and our responsibility in nuclear safety, and provide more of an opportunity for you to communicate your role in nuclear safety and the work that all of you do.

I've talked now about a number of issues. Some of them are interrelated. I think, in the end, clearly because of Fukushima, we have a much heightened focus on the work that the NRC does, on the work that happens at nuclear facilities in this country. As you look forward to tackling these challenges, clearly we will need to continue to use more technology, whether it's through the use of enhanced risk rules, whether it's through the use of better communication tools.

All of these issues are interrelated, but ultimately present opportunities, if we're proactive, to continue to ensure nuclear safety and continue to ensure a strong program going forward. So I thank you, and I'd be happy to take any questions.

###

News releases are available through a free [Listserv subscription](#) or by clicking on the [EMAIL UPDATES](#) link on the NRC homepage ([www.nrc.gov](http://www.nrc.gov)). E-mail notifications are sent to subscribers when news releases are posted to NRC's website. For the latest news, follow the NRC on [www.twitter.com/NRCgov](https://www.twitter.com/NRCgov).