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 Site: www.nrc.gov
Blog: http://public-blog.nrc-gateway.gov

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"Communications Challenges and the Japan Response"

Prepared Remarks for
The Honorable Gregory B. Jaczko
Chairman
U.S. Nuclear Regulatory Commission
at
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Good morning. I am pleased to have the opportunity to speak with you today at the CES Government 2012 Conference. Your focus this year on communications and the importance of mobile government clearly resonates with me.

When I became Chairman of the Nuclear Regulatory Commission in 2009, I developed a set of goals and objectives. These goals outlined where I believed we should focus our efforts as an agency, so that we could adapt to the new challenges that we will face in the future. Many of these goals and objectives involve communications and the harnessing of new technology to improve our efficiency and effectiveness as a regulator. There is no doubt - communications are vital to everything we do.

When I speak at conferences, I always like to first clarify the NRC's regulatory role. The NRC's mission is "to license and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment." Our agency sets the rules by which commercial nuclear power plants operate, and nuclear materials are used in thousands of academic, medical, and industrial settings in the United States.

We are a relatively small agency, with around 4,000 people, but we have inspectors who work full time at every nuclear plant in the country, and we are proud to have world-class scientists, engineers and professionals representing nearly every discipline.

The NRC is an independent safety regulator, and it does not encourage or discourage the use of nuclear power or other uses of nuclear technology. Those are decisions ultimately for the public to make through the actions of the Administration, the Congress, and private industry. Our role is to ensure public health and safety. That is the driver behind everything we do.

The year 2011 has been an exceptionally challenging and productive year for the NRC. Our staff has done an outstanding job under what have been, at times, challenging circumstances.

At the agency, we anticipated that this past year would be busy, but several unexpected developments - most notably, the Fukushima Dai-ichi nuclear emergency in Japan - raised substantial new challenges. Added to that, a spate of multiple natural disasters, including flooding in the Midwest in June; the earthquake on the East Coast in August; as well as hurricanes and tornadoes, created additional pressures. These natural disasters required close coordination with states, federal agencies and our licensees, and involved the efforts and expertise of numerous staff at NRC's headquarters and regional offices. Clearly, effective communications were absolutely critical to our ability to accomplish our safety mission during this busy time.

Today I would like to recap for you what happened in Japan, describe the NRC's response, and then identify some of the communications challenges that we faced during this situation. And, then I would like to touch on a few other NRC changes and accomplishments that may be of interest to you.

On Friday, March 11, 2011, a 9.0 magnitude earthquake off the coast of Japan triggered a devastating tsunami in the northern part of the country and set off warnings as far away as the west coast of the United States and South America. The earthquake and tsunami caused a crisis at the six-unit Fukushima Dai-ichi Nuclear Power Station, which resulted in explosions, core meltdowns, and radioactive offsite release.

One of our licensees, the Diablo Canyon Power Station in San Luis Obispo County, California, declared a Notification of Unusual Event at 4:23 AM, Eastern Standard Time, on March 11, as a result of a tsunami warning from the National Oceanic and Atmospheric Administration (NOAA). At 11:34 AM (EST), the Diablo Canyon licensee reported a one-to three-foot surge – a change within the normal tidal range – and reported that the surge did not impact their normal plant operations.

As the crisis at the Fukushima facility escalated, the NRC entered the Monitoring Mode at 9:46 EST. Monitoring Mode is a heightened state of NRC readiness for incident assessment. When situations are not facility- or region-specific, the NRC Headquarters (HQ) leads the agency response and our regional offices provide additional support.

By Friday evening, the NRC had initiated a 24-hour operation of the Headquarters Operations Center (HOC) in Rockville, Maryland, just north of Washington, DC. The NRC began to provide 24-hour assessments of all incoming information and it coordinated event-related communications. In addition, the agency immediately organized expert staff responders

to deploy to Japan, with several individuals arriving in Tokyo the next day, and the rest of the nine-member team arriving on March 16.

An Executive Team (ET) led and coordinated the agency response through the Operations Center. The ET frequently briefed other Commission offices and provided status updates to other senior NRC leadership. And, in addition, there were recurring conference calls to facilitate the communication of assignments.

The NRC's top priorities during the response were:

(1) To provide ongoing assessments of radiological conditions, dose predictions, and protective action recommendations for American citizens in the U.S. and Japan.

(2) To provide technical assistance to the U.S. Ambassador to Japan and the Japanese Government, when requested.

(3) To coordinate response activities with Federal government departments and agencies, U.S. military commands, the Institute for Nuclear Power Operations (INPO), the International Atomic Energy Agency (IAEA), and other stakeholders.

The NRC's around-the-clock response to the Fukushima Dai-ichi incident occurred throughout a nine-week period from March 11 to May 16, when the NRC exited Monitoring Mode.

Approximately 415 NRC staff members participated in the response from Headquarters and our four regional offices. Even now, however, we still have an NRC team in Japan, and we continue to provide on-going support to the Japanese government and to the U.S. Embassy.

The NRC is a learning organization and we place great emphasis on learning from our experience so that we can continue to improve. We are proud of our work during the Japan response, but we also believe it's important to step back, to take note of the things that went well and the things we could have done even better.

I'd like to share with you some observations that pertain to communications and the use of technology during the Japan response.

The Fukushima accident was unique for the NRC because of its international nature, its extended duration, and the multiple sources of radioactivity at the site. Overall, the NRC's incident response program functioned successfully in this changing and challenging environment. The NRC provided vital services to American citizens in Japan, the U.S. Ambassador in Japan, and to the government of Japan. Responders volunteered from every part of the agency and proved to be our most valuable resource.

Some of our strengths included:

(1) The responders were very adaptive, especially given that this was an international event, which added complexity to our work. Volunteers continued to support an effective response throughout the nine-week period.

(2) The agency's media and public response accurately conveyed the NRC's role; it effectively directed inquiries to Federal and other sources of information; and it provided accurate information about radiation, which is a complicated topic to explain.

(3) Our daily conference calls with a consortium of Federal, international and industry stakeholders were very helpful for communications and coordination.

Some areas that we could improve are related to: (1) the international nature of the event, (2) the competing priorities of internal and external stakeholders, and (3) the demands of a nine-week response on staffing, shift scheduling, and continuity.

Responding to an international event posed a number of challenges to the NRC. The U.S. Embassy in Japan had asked for support, and this placed us in a lead role for some aspects of the Federal response, but, of course, the reality of coordinating with other agencies was complicated in an international event. It was vital that we effectively communicate with agencies as varied as the International Atomic Energy Agency (IAEA), the Environmental Protection Agency, the Department of Energy, and the U.S. Agency for International Development (USAID).

The USAID was in charge of humanitarian efforts, but the roles of other agencies were not as clearly defined for this type of event. The NRC responders had to determine how best to work with other agencies, and how – or what – information should be shared with other countries' regulatory bodies.

It was also a challenge to track and prioritize tasks over the nine-week period. With volunteer responders and managers rotating through the Operations Center, it was important to manage tasks and ensure accountability and continuity. Effectively and consistently providing updates, as each shift of responders changed, was important, and it was critical that knowledge be transferred from one shift to another. Priorities and tasks also had to be continually updated.

Response teams had to manage a large volume of paper and electronic documentation. Each shift produced a large number of files, and it was a challenge to establish a protocol for file names, folders and overall file organization and to ensure the next shift would be able to locate information that was saved by previous shifts.

Portability was a major concern for the tasks that required mobility. Responders often entered information in notebooks, rather than in the Operations Center's software program, because a notebook could be carried from location to location. This was not ideal because it made sharing information with others more difficult and it also increased the possibility that the information could be lost if the notebook was misplaced.

External communications with the NRC's interagency partners also presented challenges. A large number of external decision-makers were involved with the NRC's actions and in providing important information, and it was necessary to document this in an integrated way.

Another aspect of the Japan accident that made the NRC's response particularly challenging was that it took place over a long period of time and involved multiple units. The Fukushima Dai-ichi site had six reactors, with three in operation at the time of the earthquake, and three in previously scheduled outages. There were also multiple spent fuel pools, which became the source of additional concern as time went on.

The scale of the Japan event response was more complex than most of the NRC responders had previously experienced or been trained to address. The more senior expert personnel were stretched thin by the response time period, and less experienced volunteers were required to get up-to-speed on Operations Center procedures, software and other tools. It was also important to effectively identify and contact subject-matter experts, who could support the internal NRC response and also provide support to other Federal stakeholders.

The language barrier between the Japanese and the NRC presented substantial communications challenges both to the headquarters staff and to our team in Japan. Translators were available, but hiring them was costly and managing translator time created an additional job task. The NRC's team in Japan needed translators not only for meetings, but also for translating printed documents. And, the translators varied in their ability to handle technical information and terminology. Some translators tended to reduce long conversations into a few sentences – creating a concern that important information might have been lost.

The NRC's Japan team also faced challenges with international logistical issues such as accessing information about power adapters, food and clothing, and acquiring expedited passports and visas. They also had to overcome some technological complications caused by electronic file compatibility, accessing the NRC local area network from Japan, and the restrictions and requirements of NRC computer security.

As you know, there was a high level of interest in the Japan event by the media, the Congress and the American public. Given this interest, the NRC anticipated that there would be a large number of requests for information under the Freedom of Information Act, or FOIA. Thirty-five FOIA requests for any and all communications related to the Japan response were received from various stakeholders. This meant the responders and other staff were required to locate all of the relevant documents, records, and emails. In addition to the collection and review of hard-copy documents, the recorded telephone lines in the Operations Center also had to be transcribed and analyzed. Current estimates of the amount of information being requested equates to approximately 1,000,000 pages. It is expected that it will take our team approximately six years to complete its review and cost approximately seven million dollars. To date, 31,000 pages of information have already been released and posted on the NRC's public website.

During the event, NRC responders were called upon to answer a broad range of questions from the public. This is always challenging when it comes to discussing scientific information. In the national and international news, radiation dose information was often discussed in both metric and English units, and this was confusing to the listeners. It also made it more complicated for the NRC and the U.S. Government to provide information and answer questions.

In the weeks following the reactor accidents at Fukushima, the NRC's headquarters and our regional office staff fielded a large number of calls from the public. At the time, the toll-free number on the NRC website for concerned members of the public was the "safety hotline," which is intended for use by persons who want to report safety concerns about licensed U.S. facilities. The safety hotline automatically routes the call to the nearest regional office. In this case, most calls originated from the West Coast and were routed to Region IV, in Texas. The volume of calls to Region IV (nearly 300 calls in the first week alone) effectively meant that the safety hotline was tied up and potentially unavailable to callers with concerns about nuclear facilities in this country.

While all of these response activities were going on, 24 hours a day, the staff also had to remain focused on our domestic safety and security mission to ensure the safety of the 104 nuclear reactors in the United States. The staff did an exemplary job, and we had a tremendously productive year at the agency, even while meeting the demands of the Fukushima Dai-ichi response.

During fiscal year 2011, we performed thousands of hours of inspections at nuclear power plants and materials sites; took hundreds of enforcement actions; reviewed more than a thousand licensing actions and tasks; issued a number of rules; and completed a final Safety Culture Policy Statement.

We completed the safety and environmental reviews of the first two new reactor combined license (COL) applications, and held mandatory hearings on both applications. We issued final safety evaluation reports for the AP1000 and ESBWR new reactor design certifications, and issued eight reactor license renewals.

We issued three new uranium recovery licenses, authorized the restart of one uranium recovery facility, and issued the license for the AREVA Eagle Rock centrifuge enrichment facility to be built in Idaho.

We completed the orderly close out of our Yucca Mountain activities, and preserved the technical work in three technical reports, more than 40 other reports, and videotaped staff interviews.

Cyber security is a serious concern for all government agencies today, and in 2011, we approved cyber security plans for all nuclear power plants.

And, in line with our commitment to transparency and openness, the NRC noticed more than 1,030 public meetings over the past year, held in locations across the country. We also strengthened our public outreach by redesigning the agency's public website to improve navigation, content and accessibility; and we substantially improved our web-based document management system to enable the public to more easily and quickly access public documents. And, the agency began to utilize new social media tools - including a Public Blog, Twitter and YouTube accounts - to further enhance our outreach efforts. We found the Public Blog to be especially helpful in disseminating information quickly during the Fukushima response.

Looking forward, the NRC—like most government agencies—will need to find even better ways to communicate, collaborate and share information internally as well as externally. If we develop and implement an effective long-term mobile strategy, we will move beyond conversations about notebooks to embrace the benefits of mobile technology. And this will open up a new world of possibilities for how our organization and staff works.

At the NRC, it could mean that materials inspectors, construction inspectors, or nuclear plant inspectors in the field would have everything at their fingertips to access information, ask questions of their colleagues at Headquarters, or share information with their team—and they could quickly transmit inspection results, observations and analysis. And this would pertain to responders in emergencies as well. We must adopt and adapt the tools of the future to enable our workforce to meet the challenges of the future.

A few minutes ago, I referred to transparency and openness, but I'd like to say another word about this. These attributes are part of our formal NRC Organizational Values, and they are guiding principles in everything we do, both internally and externally. After Fukushima Dai-ichi, and the other challenges we have faced over the past year—and the bright spotlight that has been shined on nuclear regulation, nuclear safety, and nuclear power plants—I believe it has never been more important for the NRC and the industry to be accessible and open. Our stakeholders need to understand what we are doing and why we are doing it.

As we move into the New Year and the future, we need to utilize all of the communications tools available to us that can increase our mobility, our responsiveness, and our effectiveness. By doing so, we will strengthen our ability to continue to ensure the safety and security of the American people.