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Subject: State Comments on Fukushima Daiichi Accident

The purpose of this correspondence is to provide NRC with comments, feedback and concerns that have been expressed to me by individuals working within state radiation protection programs that were responsible for the coordination of state activities as they related to the impact of the accident at the Fukushima Daaichi nuclear power plant in Japan. As Chair of the CRCPD's Committee on Nuclear Emergency Response Planning and the Manager of the New Jersey Department of Environmental Protection's Bureau of Nuclear Engineering, I have been closely following the events in Japan, the federal response and the impact on the environment in the United States particularly in New Jersey.

Over the past several months, I also have had the opportunity to discuss the event with many of my colleagues from other state radiation control programs, state emergency management agencies and my federal contacts within the various agencies involved with the response. I understand that each of the federal agencies that played a role in the U.S. response to the event are engaging in the process of evaluating that response and identifying lessons learned. To my knowledge, there has been no effort at the federal level to reach out to state organizations for input. Based on the comments I have received and my own personal observations, I believe it is critical for state programs to provide input to the process since there are numerous issues that have been identified that are of great concern to state organizations. The following discussion is not limited to observations concerning the NRC response and discusses in general all the concerns that I have received. To reiterate, I know of no other mechanism at this point to express these concerns therefore, I have selected the NRC as a conduit for the state perspective.

By far the most glaring issue that was expressed by nearly all was the lack of coordination and information sharing between the federal government and the states. To my knowledge, the only federal agency that engaged constructively and responsively to state concerns and questions was CDC/HHS and that avenue still took some time to establish. I do not think that any one would argue that because it was an international event that the data acquired would be protected to a certain degree. However, while the event was in a foreign nation, it certainly had implications within the United States and therefore was a state issue as well. The main difficulty was determining what the most reliable source for data was and who had the most up to date information.

Another concern is the decision (at the federal level) to not implement the National Response Framework for the Japanese incident, because there was "no domestic public health threat." Many people would argue that a "perceived" public health emergency is a public health emergency, and the NRF should have been activated. Based on the calls and inquiries from the public to state radiation programs, many of our citizens perceived the Japanese incident as a public health emergency in the U.S. Because the NRF was not activated, there was no Lead Federal Agency identified and no framework for coordination between the responding federal agencies. Without a clear leader in the federal government providing information to the citizens and to the state radiation control programs, the public's perception, in many cases, was that the government was being secretive/untrustworthy/hiding information/etc. The NRC appeared publicly to be the lead agency, but was unprepared to provide information about the public health issues and environmental issues related to the radiation release from Japan. Because the NRF was not implemented, there appeared to be a general lack of coordination between federal agencies in sharing information. There was not a single reliable source of information state agencies could access to get information, data, plant status, or public information during the first days to weeks of the accident.

At the state level, there were hundreds of public inquiries as to what effect the Japan power plant accident would have on the state residents from a public health perspective related to; water resources, agricultural resources, tourism, milk etc. Lacking any real data points, source term or modeling projections, it was difficult to speak with any certainty and answer the public's questions and concerns. Granted, from a technical perspective we all could agree that based upon historical information that the release of radiation would have no impact on public health and safety within the U.S. borders. At the same time, from a purely scientific and technical perspective, we had no hard data to support our statements, which places us in a very vulnerable position. It is very difficult to ease the anxiety levels and calm the fears of the public with no real technical basis for our assessment. It is critical that state radiation control programs are provided data, including predictions, much earlier than they were made available.

The NRC was able to provide very little information regarding the status of the plant. Most interested state organizations needed to turn to other sources of information to get any information. NEI was one source that seemed to have more information than the NRC. Even after the NRC arrived in Japan, the amount of information and the level of detail provided by NRC was of little or no value to state staff responsible for assessment.

At the outset of the incident, even prior to the release, states asked questions about population and cargo monitoring at the U.S. borders to prevent contaminated people and cargo from entering the country. This question was raised during an NRC Region 1 conference call with state liaison officers. NRC provided a response to that question indicating that issues related to Customs and Border Patrol should be directed to the National Operations Center and a number was provided. When the NOC was contacted, states were informed that monitoring at airports, harbors and other points of entry was being handled at the federal level. No information could be provided regarding the process used, the screening methods or threshold values. In fact

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there were instances where Customs and Border Patrol refused to provide screening methods and values claiming it was protected under national security. Two days later contaminated network news equipment arrived at a warehouse located in New Jersey via a New York airport. When the state again looked to the federal government for guidance, we were informed that since it was within the state borders that it was our responsibility to manage the situation. The issue of monitoring of incoming populations and cargo was not addressed timely or effectively. This needs to be accomplished much more quickly. It would be best to have a plan and procedures in place with screening values established. Modifications can be made if necessary as the event unfolds, but a plan needs to be in place for future events.

Laboratory analysis and reporting was another major concern. At both the national and state level, there seemed to be an overall shift away from standard protocols and methods for analyzing radiological samples in an effort to "find a real number". As a result, count times, sample size and preparation methods were altered from the "standard" in order to find real numbers for the analysis. The result was an inability to readily and easily compare data being collected across the country. For example, a water sample collected in New Jersey was analyzed and reported on RadNet with a positive reading for iodine. The reality is that the sample came from an underground aquifer at a level in excess of 300' below the surface. The number was reported was obviously not real, but the count time for the sample was altered sufficiently long to yield a real number instead of non-detect had standard protocols been followed. Upon closer examination, the value of the sample reported fell well within the error of the analysis. To further complicate the issue, EPA was posting positive analysis results to RadNet without providing the state with advanced notification. Many state programs were blindsided by the public inquiries related to that data because it was posted on the EPA website before the state had time to review the data and validate the results or in many cases was even aware the data existed. There was a significant effort required to regain credibility with public after that. All data should be reported and if necessary discussed between EPA and the state agency collecting the samples. This is particularly important if there are positive readings so that the EPA and state can discuss the implications and have public information prepared before the data is posted. A better method must be developed for reporting results on RadNet that are not the usual background.

The DOE began putting up information and data from flyover missions on their CMWeb site at the outset of the response. Within days, that information was removed and was not accessible to state radiological assessment staff. As the DOE continued to collect data over the next few weeks and months, the data was never made available to state agencies. Access to the DOE web pages is limited through an established application and approval process. Usernames and passwords are provided to individuals based on their need to access the site. It is not a publicly accessible site. It appears that there was an underlying level of distrust that state agencies will release information not for public disclosure rather than the partnership we have been working for years to develop. States do not understand why they were not able to access this important data. Further, there is some indication that there was a deliberate decision made within the executive branch of the federal government to withhold information that state agencies were seeking.

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The NRC protective action recommendation made during the initial days of the accident remains a concern for nearly all states. That press release states; "Under the guidelines for public safety that would be used in the United States under similar circumstances, the NRC believes it is appropriate for U.S. residents within 50 miles of the Fukushima reactors to evacuate." Since that time, NRC has been spending a great deal of time and effort to defend its position.

However, the NRC defense of the decision is not consistent. I have heard the rationale behind the decision explained in a variety of ways from a variety of NRC staff. Some are dose based using the RASCAL model to perform calculations. The RASCAL model is not developed to evaluate accident sequences from multiple reactor cores and spent fuel pools simultaneously. If RASCAL is used to do "what if" type calculations for these types of accidents, the results need to be carefully evaluated as the source term can be overestimated by several orders of magnitude. Other NRC staff have stated that the recommendation was a travelers warning issued by the State Department as a precautionary measure. Others have explained the basis using the EPAs 1 year relocation PAG limits. Still others use plant safety function explanations based upon the extreme uncertainty of plant safety systems and mitigation strategies to recover reactor fuel. To date none of the explanations seems to validate a 50-mile evacuation as it is so clearly stated in the press release.

There remains a great deal of concern at the state level on what the impact of this decision will have on nuclear emergency response planning as we move forward. If the NRC continues to defend the position that the recommendation was appropriate given the conditions, it could have far-reaching implications in the U.S. To simplify the issue, will there be a 50-mile emergency planning zone for sites having multiple reactors and spent fuel pools? Does the NRC intend to change the planning basis for U.S. reactor sites with multiple reactors? Wouldn't it be easier for the NRC to recognize the term "evacuation" was used but the actual recommendation was essentially a relocation or something else? The NRC has not yet presented a plausible argument from the NRC why they would not consider a 50-mile evacuation in the United States for a similar situation.

Further, the NRC made this decision and publically released the recommendation when it was in direct opposition to the decision made by Japan. Should we expect the same NRC response for events that might occur within U.S borders? If the NRC does not agree with the state decision makers, will they make a separate recommendation at the federal level and release it to the public without prior discussion and consultation with the state? The actions and decisions of NRC during the Japan response have created a new level of skepticism and distrust at the state level of exactly how the NRC will respond to an incident in the U.S. The question of a 50-mile planning basis and the NRC authority to make unsolicited public protective action recommendations for the state without consultation are not issues that will not go away soon, nor will they be ignored by the public. These can be very difficult issues for state agencies to address without NRC support.

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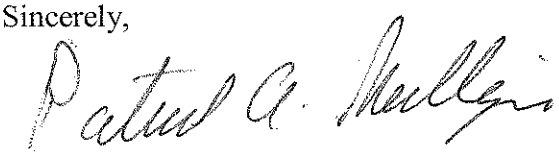
As an example of the immediate impact of NRC's Japan 'evacuation' recommendation, the emergency manager of Miami-Dade County was called to testify before congress about local nuclear power plant accident response plans. Some of the questions directed at the local official directly related to a potential response beyond the 10 miles EPZ, should a larger area of impact be required. At that time this official was sitting before a congressional panel, there was little information regarding the basis for the 50-mile evacuation order from our federal partners, specifically NRC, to give him. As a result, support staff could not adequately prepare him for questions related to evacuation planning beyond the 10 mile planning standard. This federal action and lack of support information put an extremely capable and knowledgeable local official in a very difficult position in front of Congress. He, like state and local officials across the country were put in the difficult position to answer questions about 50 mile evacuations zones with no plausible explanation or technical basis provided by the federal agency that made that decision.

Other difficulties arose out of the apparent discrepancy between the derived intervention level for iodine in water and milk. EPAs drinking water MCL for the radionuclide iodine-131 is 3 picocuries per liter. It is important to note that this drinking water MCL was calculated based on long-term chronic exposures over the course of a lifetime 70 years. There is some concern regarding applying this standard to this particular accident understanding that I-131 production stopped when the reactors went subcritical. It is impossible to get a 70-year dose from a radionuclide that has an 8-day half-life and the source of production has ceased. What happened to the idea of optimization that allows for the situational analysis of conditions to drive decision making including the modification of applied intervention levels based on real time analysis? The 3 picocuries per liter MCL for drinking water needs to be evaluated with respect to nuclear power plant accidents. Adding to the confusion and difficulty answering public inquiries is the DIL for milk. FDA's DIL for iodine-131 in milk is 4,770 picocuries per liter (1,250 times higher than water). It is impossible to explain this discrepancy to the public and in some instances to other technically capable individuals. It lacks consistency and needs to be addressed.

Building on existing relationships between state and federal governments and agencies is critically important to CRCPD. As such, it is our hope that NRC will not only identify concerns, but also take action to overcome challenges experienced by state and local governments during this international incident. From the state perspective, lessons were identified during the Fukushima event, but they are not learned until changes are made to policy and procedure to bridge federal communication gaps within the federal family, and with state and local governments.

Sincerely,



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