

March 7, 2016

Mr. David Lochbaum  
Director, Nuclear Safety Project  
Union of Concerned Scientists  
PO Box 15316  
Chattanooga, TN 37415

Dear Mr. Lochbaum:

I am writing in response to your email of December 18, 2015, in which you commented on information that the U.S. Nuclear Regulatory Commission (NRC) provided to Senator Edward Markey on December 10, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15331A082). In your email, you stated that the NRC failed to inform the senator about hot weather-related power reductions that were included in monthly operating reports submitted to the NRC by nuclear plant operators. You also stated that nuclear plant operators are required to submit monthly operating reports to the NRC.

In response to Senator Markey's October 19, 2015, request for information on various weather-related events at U.S. nuclear power reactors (ADAMS Accession No. ML15293A343), the NRC sought to identify instances that 1) met the criteria of interest listed in his letter, and 2) had some documented association with either extreme weather or global warming, as well as an effect on plant safety and reliability. To accomplish this, the NRC staff determined that two main data sources would provide the appropriate level of detail to confirm that the two factors noted above were met. These sources are notifications required to be submitted to the NRC under regulatory provisions governing either immediate notification requirements for operating nuclear power reactors or the licensee event report system.

The NRC staff searched for weather-related events that were reported in accordance with these two requirements, specifically Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," and 10 CFR 50.73, "License Event Report System." The search included weather-related reactor scrams, shutdowns, and power reductions whose causal factors met the Senator's request criteria.

While determining the appropriate scope for the search, the NRC staff considered whether data submitted voluntarily by the industry for use in the Reactor Oversight Process Performance Indicator Program could provide a potential source of information about plant power transients influenced by extreme weather. For a variety of reasons discussed in more detail below, NRC staff determined that this type of information did not provide a set of reliable data and could be misleading as an indicator of the overall impact of extreme weather on nuclear power plant operations.

Regulatory Guide 1.16, "Reporting of Operating Information—Appendix A Technical Specifications," originally published in January 1975, outlines an acceptable method for licensees to meet the requirements of their plant technical specification requirements for

reporting operational information to the NRC. This included a monthly operating report, which was required to be sent monthly by each licensee, on the docket, reflecting operating statistics and plant shutdowns from the previous month. The monthly operating report did not include a requirement to report plant power reductions.

Generic Letter (GL) 97-02, "Revised Contents of the Monthly Operating Report," published in May 1997, offered licensees an alternate format for submitting this information. GL 97-02 also noted that a license amendment would be necessary if changing the format would impact the licensee's compliance with its technical specifications.

As outlined in GL 97-02, the monthly operating report data was intended to include the following:

- unit shutdowns, including:
  - sequential number of shutdowns during a calendar year
  - date of start of shutdown
  - type of shutdown (forced or scheduled)
  - duration of shutdown in hours (to the nearest tenth of an hour)
  - reason for shutdown
  - method of shutting down the reactor
  - corrective actions/comments on the shutdowns
  - narrative summary of monthly operating experience
- number of hours the reactor was critical
- number of hours the generator was online (service hours)
- unit reserve shutdown hours
- design electrical rating
- maximum dependable capacity
- net electrical energy

In January 2004, the NRC approved Technical Specification Task Force 369, Revision 1, which changed the standard technical specifications to delete the requirement to submit monthly operating reports. This change was found to be acceptable based on licensees' commitments to provide data through a combined industry database on a quarterly basis. Though licensees committed to providing this information, and the NRC staff found this means of reporting to be sufficient for the intended purpose of the information, these commitments were not regulatory requirements.

Under the revised process, GL 97-02 continues to define the scope of data that is gathered quarterly by industry and shared with the NRC. Per GL 97-02, the narrative summary should contain "a brief summary description (3 to 4 sentences) of the highlights of operation of the unit for the reporting month." The type of information that should be included in this section is otherwise left to the licensee for interpretation, and while some licensees may include information about short-duration, weather-related power reductions of a few percent, other licensees may omit this information.

In your December 18, 2015, letter to Senator Markey, you included an attachment that lists numerous instances of U.S. nuclear power reactors making small power reductions for various reasons, some of which could be traced to high ambient temperatures. This information was included by licensees in their quarterly submittals as part of the "narrative summary of monthly operating experience" item discussed above.

Since no direct link could be drawn between small power reductions reported by the licensees and the areas specified in Senator Markey's letter, the NRC staff determined that this information was not appropriate to use as a basis for answering the Senator's questions. The NRC believes that any information gathered from the industry reports would at best represent a partial data set and, as such, the letter provided to Senator Markey was responsive and clearly described the sources of information.

If you have any questions regarding this matter, please contact me at 301-415-7000.

Sincerely,

**/RA/**

Michael R. Johnson  
Deputy Executive Director for Reactor  
and Preparedness Programs  
Office of the Executive Director for Operations

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