

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
DOCKET NO. E-7, SUB 819

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| In the Matter of |) | |
| Application of Duke Power Company LLC d/b/a |) | MOTION TO RESCIND |
| Duke Energy Carolinas, LLC, for Authority to |) | ORDER BY THE |
| Recover Necessary Nuclear Generation |) | PUBLIC ADVOCACY |
| Development Expenses and Request for |) | GROUPS |
| Expedited Treatment |) | |

Pursuant to G.S. 62-80, now come the N.C. Waste Awareness and Reduction Network (“NC WARN”), Public Citizen, the N.C. Public Interest Research Group, the Nuclear Information and Resource Service, Common Sense at the Nuclear Crossroads, Clean Water for N.C. and the Blue Ridge Environmental Defense League (the “Public Advocacy Groups”), through the undersigned attorney, with a motion to rescind the Commission’s order in this matter. This order allowed Duke Energy to expend funds for the development of the Lee Nuclear Station. In support of this motion is the following:

1. G.S. 62-80 allows the Commission to rescind, alter or amend any of its prior orders or decisions at its own discretion. The Commission has the authority upon its own motion, or upon the motion by any party, to reconsider previously issued orders, although to do so requires proper notice and hearing. *State ex rel. Utilities Comm’n v. MCI Telecommunications Corp.*, 132 N.C. App. 625, 514 S.E.2d 276 (1999).

2. One of the commitments made by Duke Energy at the hearing in this docket was that it would have a firm price estimate to the Commission and the parties by the end of the year. (Tr. V.1, pp. 51-52). New evidence has come to light subsequent to

the hearing and order in this proceeding that calls into question the ability of Duke Energy to meet this commitment. Much of the so-called “certified design” for the Westinghouse AP1000 Revision 16 reactor that is proposed by Duke Energy for the Lee Nuclear Station has not been approved. Because of the delays in the certification process, it is an impossibility for Duke Energy to have even a general estimate of what the Lee Nuclear Station will cost.

3. In preparing a motion for NC WARN to the U.S. Nuclear Regulatory Commission (“NRC”) to immediately suspend the hearing on the operating license at the Harris Nuclear Power Plant, counsel for the Public Advocacy Groups reviewed in detail the certification process for the AP1000 Revision 16 design, the same design adopted by reference by Duke Energy for the Lee Station.¹ This is not an NRC requirement, the NRC has noted that “Part 52 has never required an applicant for a COL to reference a certified design.”² It is however important to note that when there are any modifications to the design or operational procedures for the AP1000 Revision 16, Duke Energy would be required to change its application at that point.

4. This was recognized by Mr. Jamil who testified on cross examination that there are “significant financial, regulatory, and technical challenges [that] remain to be resolved.” Mr. Jamil stated “that the most significant technical challenge in my opinion is

¹ <http://www.nrc.gov/reactors/new-licensing/col/lee.html> The language in the combined operating license application (“COLA”) is that the COLA incorporates by reference Appendix D to 10 C.F.R. Part 52 and the AP1000 Design Control Document (“DCD”) Revision 16. This NRC website also provides access to the DCD documents referenced in other footnotes.

² *Statement of Policy on Conduct of New Reactor Licensing Proceedings*, CLI-08-07, 73 F.R. 20963, 20965 (April 14, 2008).

the fact that the detailed design of the AP1000 is not complete yet.” (Tr. V.1, pp. 171-173; V.2, pp. 5-7). The impacts of these challenges and uncertainties on the Lee Nuclear Station are readily apparent; Mr. Bradford summarized these by stating that “the construction of new nuclear power plants employing **untested designs** entails extremely large economic risks for North Carolina customers.” (Bradford Summary, emphasis added).

5. The most significant elements of the proposed reactors, i.e., the certified design and operational practices, are lacking in the COLA for the Lee Station. In a January 18, 2008, letter to Westinghouse docketing the AP1000 revision 16, there was discussion of an incomplete recirculation screen design (known as the “sump problem”), a necessary component to the emergency cooling system. Recent events at other reactors have shown significant problems with digital instrumentation and control. One of the unresolved flaws with the design is that it simply does not address many of the concerns related to aviation and terrorist attacks, and the nexus of these attacks with fire protection. At a hearing last week before the NRC, an NRC official confirmed that fire-related events represent approximately half the overall risk of core damage at U.S. nuclear power plants.

6. The DCD for the AP1000 Revision 16 currently contains Tier 1 information, i.e., components of the design that have been certified, and Tier 2 information, i.e., components that have not been certified. There are currently thousands of pages of complicated technical matters being reviewed by the NRC technical staff as part of the certification. Importantly, the Tier 1 design descriptions, interface requirements and site

parameters are derived from the Tier 2 information.³ In other words, not even the so-called “certified” components have been fully approved as they depend on the interaction with non-certified components. The Tier 2 components are not trivial, but run the gamut of containment, control room set up, seismic qualifications, fire areas, heat removal, human factors engineering design, plant personnel requirements, operator decision-making, alarms and piping.⁴ These non-certified components interact with Tier 1 components and each other to a significant degree. During the certification process, any or all of these may be modified by the NRC or Westinghouse.

7. The Public Advocacy Groups realize that for any major construction project, minor modifications need to be made, but the components in question are major safety components. In his prefiled testimony, Duke Energy Witness Jamil testified that part of the approved costs for 2008 and 2009 would go for project planning and engineering. This latter category specifically includes “some limited initial payments on long-lead material and equipment items such as: Reactor Coolant Pumps, Containment Vessel, Reactor Pressure Vessel, Steam Generators, Control Rod Mechanisms, and Condenser Circulating Water Piping.” (Jamil, Prefiled Testimony, pp. 7-9). These are the very components of the AP1000 Revision 16 design that have not been certified.

8. The certification process is prone to delays, at best the certification is expected to take at least until mid-2011, although this recently slipped another several

³ AP1000 DCD Revision 16, Introduction, paragraph 1.3.

⁴ AP1000 DCD Revision 16, Introduction; Table 1-1 provides a listing of Tier 2 information.

months. In a letter to Robert Sisk of Westinghouse Electric, dated June 27, 2008, Thomas Bergman, Deputy Director, NRC Division of New Reactor Licensing, Office of New Reactors, indicated that there would be a significant delay in the review schedule for the AP1000 Revision 16 in Docket 52-006. ATTACHED. The NRC notified Westinghouse that the review schedule will itself not be updated until August 30, 2008, but that date is contingent on Westinghouse's ability to resolve several critical issues related to the reactor design.

9. This delay is caused by Westinghouse's withdrawal of an earlier submittal on the screen design/analysis and the downstream effects in the core from debris generation and long-term recirculation cooling. In addition to the ongoing and unresolved sump problem, Mr. Bergman in his letter also identified delays in making required changes in the design in the pressure vessel closure head, emergency core cooling systems, revised analysis of the containment external pressures, revised seismic analyses for rack design and various unidentified "impact reports." These along with the sump screen are significant, if not critical, to the safe operation and shut down of the proposed reactors at the Lee Station

10. Mr. Bergman characterized the criticality of these components to the safety of the reactors by stating that, "although the submittals have allowed the staff to begin review of these issues, uncertainty remains with respect to completion of the long-term cooling review." The AP1000 Revision 16 design remains a "moving target" with many unknowns which may be substantially modified by Westinghouse, the applicant or the NRC at some point in the future.

11. Rather than reargue the position of the Public Advocacy Groups from the

hearing, it is even more apparent that the expenditure of any funds is not “reasonable and prudent” until the design of the nuclear reactor is final. G.S. 62-110.7 (Section 7 of Senate Bill 3, Session Law 2007-397). The risks of delays and cost overruns that stem from changes to the reactor design will increase significantly if construction proceeds without a certified design. Not only does Duke Energy, the Commission, the intervenors and the public not know what the Lee Station will cost, no one knows what the final design and operational procedures will be.

12. Further, it is our understanding that our colleagues in South Carolina are making a similar motion regarding Duke Energy’s request for development costs before the Public Service Commission of South Carolina, Docket No. 2007-440-E.

13. In conclusion, Duke Energy has not met its burden in G.S. 62-110.7 to show that the development and construction costs for the Lee Nuclear Station are reasonable and prudent. It will not be able to provide any assurance to this Commission that it knows what the final design of the Lee Nuclear would be nor what the cost would be to construct. As such, the Commission should rescind its previous order in this proceeding.

This is the 24th day of July 2008.

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CERTIFICATE OF SERVICE

I hereby certify that the following persons on the docket mailing list have been served this MOTION TO RESCIND ORDER BY THE PUBLIC ADVOCACY GROUPS by deposit in the U.S. Mail, postage prepaid or by email transmission:

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This is the 24th day of July 2008.

Attorney at Law

June 27, 2008

Mr. Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization
Westinghouse Electric Company
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Pittsburgh, PA 15230-0355

SUBJECT: REVIEW SCHEDULE FOR AP1000 REVISION 16 (DOCKET 52-006)

Dear Mr. Sisk:

Your letter of May 20, 2008, requested the U.S. Nuclear Regulatory Commission (NRC) to confirm that uncertainty in the review schedule for the AP1000 design certification amendment has been removed as a result of Westinghouse submittals on screen design/analysis and on bracketed Technical Specification items. These items were referred to in our February 15, 2008, letter establishing the review schedule. NRC agrees that the submittals identified in that letter were completed and submitted by Westinghouse on schedule. However, on June 3, 2008, you withdrew information that was necessary to address down-stream effects in the core. The information addressing down-stream effects in the core is an important consideration in addressing the overall debris generation and long-term recirculation cooling. The June 3, 2008, submittal withdrew design basis information and did not provide new supporting information to replace the withdrawn information. As the staff discussed with you, the information provided in your June 3, 2008, letter is insufficient. It is our understanding that you wish that we identify necessary additional information in the form of requests for additional information (RAIs). The staff is proceeding with that approach. Therefore, although the submittals have allowed the staff to begin review of these issues, uncertainty remains with respect to completion of the long-term cooling review.

In addition, there remains uncertainty about the schedule outlined in the February 15, 2008, letter in light of changes. This uncertainty is created as a result of changes in the scope of work of the review requested by Westinghouse since developing that schedule, and delayed submittals. The scope changes include:

- Change to Integrated Head Package design (to be submitted in June)
- Revision to 50.46 analyses (see February 15, 2008, letter from Westinghouse) (to be submitted in June)
- Revised analysis for containment external pressure (submitted on May 12, 2008 as RAI-TR9-08)
- Revised seismic analyses for rack design (TR44 and 54), and for critical sections (TR57) (to be submitted in June)
- Various impact reports (GLE series)

The delayed submittals include some revised Technical Reports or Request for Additional Information (RAI) responses that have been or are projected to be submitted later than originally planned. These changes alter the basis for the review schedule we originally formulated.

The staff understands that some changes in scope are necessary and may improve the design, and it is not our intent to discourage improvement in the design or analytical methods. We also understand that some submittals may need to be delayed for a variety of causes. Regardless, changes such as these do impact our planned reviews and affect ongoing reviews or require re-review of completed reviews. Given the current workload for all application reviews in the Office of New Reactors, introducing new work or delays in providing information as expected creates planning, scheduling and resource availability issues. As a consequence, the duration of your review may have to be extended in order to integrate new or delayed work into our work planning system. Assuming you provide the above information as committed, our goal is to inform you of changes to the schedule by August 30, 2008.

Sincerely,

/RA/

Thomas Bergman, Deputy Director
Division of New Reactor Licensing
Office of New Reactors