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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
OF LICENSING & SERVICE

In the Matter of)
FLORIDA POWER AND LIGHT COMPANY)
(Turkey Point Plant, Units 3 and 4)

Docket Nos. 50-250 OLA-1
50-251 OLA-1

NRC STAFF RESPONSE TO
LICENSEE MOTION TO STRIKE

I. INTRODUCTION

On August 10, 1984, Florida Power & Light Company ("Licensee") filed two motions for summary disposition of Contentions (b) and (d) with accompanying statements of material facts as to which no genuine issue is to be heard and supporting affidavits. Both motions were supported by a single memorandum of law. On September 4, 1984, the NRC Staff filed a response, which included affidavits, in support of the motion. On that same date, Joette Lorion and the Center for Nuclear Responsibility, Inc. ("Intervenors") filed a response, with supporting affidavits by Joette Lorion and Gordon D. J. Edwards, in opposition to the Licensee's motion. "Intervenors Response to Licensee's Motion for Summary Disposition of Intervenors' Contentions (b) and (d)," dated September 4, 1984 ("Intervenors' Response"). The Licensee thereafter moved to strike each of the affidavits and the Intervenors' Response in their entirety. Licensee's

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Motion to Strike, dated September 21, 1984 ("Motion to Strike"). ^{1/} As grounds for its motion the Licensee contends that (1) neither of the Intervenor's affiants are competent to testify as to the matters in their affidavits, (2) Intervenor's failed to file a separate statement of material facts as to which it is contended there is a genuine issue to be heard, and (3) some statements in the Gordon Affidavit constitute an impermissible attack on NRC Regulations. For the reasons set forth below, the Staff supports in part the Motion to Strike.

II. DISCUSSION

A. Striking Affidavits Based Upon Lack of Competency to Testify to Matters Therein

1. Standards for Affiants in NRC Proceedings

As the Staff stated in its response to the Licensee's motion for summary disposition, 10 CFR § 2.749 provides that, when a motion for summary disposition is made and supported by affidavit, a party opposing the motion may not rest upon the mere allegations or denials of his answer but must set forth specific facts such as would be admissible in evidence that show the existence of a genuine issue of material fact. 10 C.F.R. 2.749(b). All material facts set forth in the statement of

^{1/} 10 C.F.R. § 2.749(a) expressly states that, apart from an opposing party's written response to new facts and arguments presented in any statement filed in support of a motion for summary disposition, no further supporting statements or responses to a motion for summary disposition shall be entertained. The Licensee's motion to strike does not address the merits of the factual matters contained in its motion. Thus, it does not run afoul of this regulation.

material facts required to be served by the moving party will be deemed to be admitted unless controverted by the statement of material facts required to be served by the opposing party. 10 C.F.R. 2.749(a). ^{2/} If no answer properly showing the existence of a genuine issue of material fact is filed, the decision sought by the moving party, if properly supported, shall be rendered. 10 C.F.R. 2.749(b).

Section 2.749(b) also requires that affidavits (1) "set forth such facts as would be admissible in evidence" and (2) "show affirmatively that the affiant is competent to testify to the matters stated therein." This includes the material in, and attached to, an affidavit. Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 755-56 (1977). The party sponsoring an expert

^{2/} The Licensee argues that Intervenor's Response should be stricken because it does not include "a separate, short and concise statement of material facts as to which it is contended that there exists a genuine issue to be heard." 10 C.F.R. § 2.749(a). Motion to Strike at 9-10. As the Licensee correctly points out, a licensing board has stated that the requirement that a movant annex a statement of material facts as to which it contends no genuine issue is to be heard is not "merely a procedural technicality, but it is of substantive significance." Pacific Gas & Electric Co. (Stanislaus Nuclear Project, Unit No. 1), LBP-77-45, 6 NRC 159, 163 (1977). In Stanislaus, the movant's failure to provide the statement was fatal. The Board noted that the statement imposes upon other parties a duty to file a statement of material facts as to which it is contended a genuine issue of fact exists or suffer the penalty of having uncontroverted facts deemed admitted under the terms of 10 C.F.R. § 2.749(a). Id. Accordingly, Intervenor's failure to annex such statement is not grounds for a motion to strike but only serves as an admission. In any event, a Board may not render a decision in favor of summary disposition unless it considers all of the filings. 10 C.F.R. § 2.749(d). Thus, the Board may consider the Intervenor's affidavits, if properly supported, in reaching a ruling on the Licensee's motion. See, Stanislaus, 6 NRC at 163-66 (Board evaluated the summary disposition motion and answers where movant did not submit a statement of material fact).

witness has the burden of demonstrating his expertise. Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-410, 5 NRC 1398, 1405 (1977).

The NRC Rules of Practice do not expressly set forth the standard for judging whether a prospective witness qualifies as an expert. The Appeal Board, however, has adopted the standard set forth in Rule 702 of the Federal Rules of Evidence, ^{3/} which speaks of qualification by "knowledge, skill, experience, training, or education." Philadelphia Electric Co. (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-701, 16 NRC 1517, 1524 (1982); Duke Power Co. (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453, 475 (1982). The qualifications of experts in NRC proceedings generally have been established by showing either academic training or relevant experience or some combination of the two. E.g., Louisiana Power & Light Co. (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1091-92 (1983); see Diablo Canyon, LBP-78-36, 8 NRC 567, 570 (1978) (proffered expert lacked qualifications). Academic training that bears no particular relationship to the matters as to which the expert is offered is insufficient, standing alone, to qualify the individual as an expert witness on such matters. Diablo Canyon, 8 NRC at 571. Consequently, an expert who does not possess "any special 'knowledge, skill, experience, training, or education' germane to the

^{3/} Rule 702 states:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

matters which his proposed testimony address[es]" will not be permitted to testify. McGuire, 15 NRC at 474-76 (chemist with masters degree but having no extensive training in, or professional involvement with, structural engineering, theories of combustion, flame propagation and explosives was not competent to testify as expert in areas of hydrogen burning and detonation or strength of containment structure); Peach Bottom, 16 NRC at 1523-24 (affidavit of doctorate in chemist who devoted himself to "problems of nuclear power" and who had admitted on voir dire in another proceeding that he lacked formal education or experience in medicine, health physics or any other discipline associated with the health effects of radiation was not accepted). Similarly, a "well-informed laymen" having a "broad general knowledge" of an area, but not the "requisite depth of knowledge" will not qualify as an expert. Diablo Canyon, 8 NRC at 572-74. ^{4/}

2. Qualifications of Intervenors' Affiants

Contention (b) challenges the adequacy of the computer code used by the Licensee to evaluate loss-of-coolant-accidents (LOCA) and Contention (d) alleges that the decrease in departure from nucleate boiling ratio (DNBR)

^{4/} Recently, the U.S. Court of Appeals for the District of Columbia Circuit has concluded that a Licensing Board properly refused to consider the testimony of a seismic "expert" after finding that the testimony "lacked probative value because of 'the witness' sketchy qualifications as an expert, the superficiality and questionable accuracy of his pre-filed evidence, and his demeanor on cross-examination.'" Carstens v. NRC, No. 83-1879, slip op. at 11-15 (D.C. Cir. September 7, 1984) citing, Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-3, 15 NRC 61, 76-78 (1982).

associated with the amendments significantly affects a margin of safety. The matters raised by these contentions involve disciplines such as reactor physics, thermodynamics or thermal-hydraulics, heat transfer, and fluid mechanics. Licensee argues that neither the affidavit of Joette Lorion nor that of Dr. Gordon Edwards establishes that they are competent to testify to the matters in these affidavits and thus, that the affidavits should be stricken. Motion to Strike at 4-9.

The Staff agrees that the affidavit of Joette Lorion does not establish that she possesses any expertise germane to the matters she addresses in her affidavit. With respect to her qualifications, Ms. Lorion only states that she is Research Director of the Center for Nuclear Responsibility, has been writing and researching nuclear issues since 1978, and has acted as a consultant for various news organizations and government oversight committees. Lorion Affidavit at 2. Ms. Lorion also states she has personal knowledge of the matters in her affidavit and believes them to be true and correct. Id. The text of her affidavit relies in part on statements by various individuals and organizations in the nuclear field and also incorporates by reference statements made by Dr. Edwards in his affidavit. In large part, Ms. Lorion has not indicated any education or experience that provides her with any special expertise or factual knowledge concerning the matters she addresses. Certainly, she is in no better position than the well-read laymen in Diablo Canyon, LBP-78-36, supra, the doctorate in chemistry in Peach Bottom, supra, or the chemist with a master's degree in Perry, supra. Similarly, her position as "Research Director" of a non-profit nuclear information organization which she founded, while possibly an indication of her broad, general familiarity

with nuclear issues, does not qualify her as an expert. Furthermore, Ms. Lorion's failure to indicate the subject matter, the nature or the extent of her consulting activities renders her assertion of consulting experience of little value to the Licensing Board in its assessment of her qualifications. See, e.g., Diablo Canyon, 8 NRC at 572-73. Moreover, Ms. Lorion's affidavit does not establish that she has any personal knowledge regarding computer code development, mathematical modeling, reactor physics, or other issues specific to the Turkey Point amendments. In short, Ms. Lorion's affidavit does not establish that she is competent to testify as to the matters stated therein.

The Staff also agrees that Dr. Edwards appears unqualified to testify as an expert regarding many of the statements in his affidavit. Dr. Edwards' statement of professional qualifications indicates that he has a doctorate in mathematics and baccalaureate degrees in mathematics, physics and chemistry, that he is a president of a nuclear organization, and that he has conducted cross-examination of experts for various governmental bodies on such subjects as health effects, radioactive waste disposal and reactor safety. Edwards Affidavit, Exhibit A. Dr. Edwards also states that his experience as "an applied mathematician" has been to focus on the strengths and weaknesses of mathematical modeling. Id. It appears that he is competent to reach conclusions regarding the general structure of computer evaluation models and the general uncertainties associated with the assumptions in those models. Dr. Edwards goes beyond a general challenge as to the accuracy of models, however, to reach

conclusions regarding heat transfer, departure from nucleate boiling, fuel cladding failure and radiation releases in LOCAs. Edwards Affidavit at ¶¶ 2-3, 9-10. ^{5/}

The Licensee argues that Dr. Edwards' statement of professional qualifications does not indicate that he has any particular education or experience in reactor physics, thermodynamics, heat transfer, fluid mechanics, and radioactive releases. Motion to Strike at 7-9. The Staff agrees that it is not apparent from his qualifications that he has any special expertise relevant to the application of evaluation models for LOCAs, or the disciplines associated with analyzing LOCAs. While Dr. Edwards' experience as a cross-examiner of technical experts on nuclear issues for various governmental bodies and his position as president of a lay nuclear organization clearly indicates that he possesses broad, general knowledge of nuclear issues, his qualifications in this regard are no better than the two chemists who had a history of involvement in nuclear issues but were not permitted to testify as experts regarding the matters in controversy in McGuire, supra and Peach Bottom, supra. Moreover, there is no indication as to whether the issues involved in the proceedings for which Dr. Edwards served as an expert examiner are substantially similar to matters raised by Contentions (b) and (d).

^{5/} While Dr. Edwards may be fully competent to testify regarding the uncertainties associated with computer models, the gist of his position is that models can never accurately predict LOCA conditions and therefore should not be used at Turkey Point. See Edwards Affidavit at ¶¶ 7-10. Even if Dr. Edwards possesses the expertise to evaluate the ability of computer models to predict LOCA conditions, although such is not readily apparent from his professional qualifications, the cited testimony is not admissible because it constitutes an impermissible attack on NRC regulations. See Section B, infra.

It is also not apparent what specific issues were involved relevant to the conclusions he reaches regarding LOCAs and DNBR, nor is the depth of his knowledge or experience in these areas apparent. Thus, the Interveners have not shown that Dr. Edwards possesses any expertise, apart from his general familiarity with mathematical modeling, germane to the opinions he has offered in paragraphs 2, 3, 9 and 10 of his affidavit.

To summarize, Joette Lorion is neither qualified to testify as an expert based upon education and experience nor does she appear to possess direct, factual knowledge regarding all of the statements in her affidavit offered on Contentions (b) and (d). Similarly, the professional qualifications of Dr. Edwards do not disclose any special expertise germane to the technical issues in his affidavit, apart from his familiarity with mathematical modeling.^{6/} Therefore, it is appropriate to strike both the Lorion Affidavit and paragraphs 2, 3, 9 and 10 of Edwards' affidavit based upon the affiants' lack of qualifications to testify to the matters therein.

B. Rejecting Affiant's Challenges to NRC Regulations

The Licensee also argues that, pursuant to 10 C.F.R. § 2.758(a), paragraphs 7-10 should be stricken from the Edwards Affidavit because

^{6/} The Staff is also mindful that even though the affidavits may be of little probative value because of the lack of qualifications of the affiants (see, e.g., Public Service Electric & Gas Co. (Hope Creek Generating Station, Units 1 and 2), LBP-78-15, 7 NRC 642, 647 n.8 (1978)), prior to the McGuire decision, a board in an analogous situation considered the findings on their merits to determine whether a genuine issue of material fact existed. See Stanislaus, 6 NRC at 162-166 (Board considered motion on its merits even though the movant's affidavit did not adequately set forth facts establishing affiant's competency to testify to matters therein).

they constitute an impermissible attack on the NRC's regulations in that they (1) challenge the use of evaluation models for ECCS analysis which are called for in 10 C.F.R. Part 50, Appendix K, and (2) challenge the maximum peak cladding temperature of 2200°F provided by 10 C.F.R. § 50.46. Motion to Strike at 10-11. The Staff agrees that paragraphs 7-10 should be stricken because throughout these paragraphs, Dr. Edwards asserts that computer models should not be used to evaluate LOCAs. Such assertions directly contravene 10 C.F.R. Part 50, Appendix K, which contains the acceptance criteria for evaluation models and provides that computer models meeting such criteria are to be used to evaluate LOCAs and ECCS performance. The Staff also agrees that the statements in paragraph 9(e) which characterize the conclusion that a peak cladding temperature 60° less than the 2200°F limit is safe as being "political," in effect, challenges the 2200°F limit set forth in 10 C.F.R. § 50.46(b)(1).

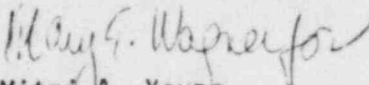
In sum, even if the Board finds that Dr. Edwards qualifies as an expert regarding the matters in his affidavit, paragraphs 7-10 of the affidavit should be stricken because they constitute an impermissible attack on 10 C.F.R. § 50.46 and Part 50, Appendix K.

III. CONCLUSION

For the reasons discussed above, the Board should grant the Licensee's Motion to Strike with respect to the Lorion Affidavit in its entirety, and paragraphs 2, 3, 9 and 10 of the Edwards Affidavit because the affiants lack the qualifications to testify to such matters in their

affidavits. The Licensing Board should also grant Licensee's Motion to Strike with respect to paragraphs 7-10 of the Edwards Affidavit because those paragraphs constitute impermissible attacks on NRC regulations.

Respectfully submitted,


Mitzi A. Young
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 9th day of October, 1984

