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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

In the Matter of)	
)	
LOUISIANA POWER & LIGHT COMPANY)	Docket No. 50-382 OL
)	
(Waterford Steam Electric Station,)	
Unit 3))	

APPLICANT'S COMMENTS IN RESPONSE TO OCTOBER 3, 1984 ORDER

On September 26, 1984, the NRC General Counsel advised the Appeal Board that Gunnar Harstead¹ may have violated conflict of interest statutes and regulations, and that the matter had been referred to the Department of Justice. The Appeal Board, in its Order of October 3, 1984, asked Applicant, Joint Intervenor, and the NRC staff to comment on the effect, if any, on matters before it of a finding of such a violation.

Subsequent to the Appeal Board's Order, the Office of the General Counsel advised the Appeal Board that the Department of Justice has determined not to prosecute Dr. Harstead and that it had closed its files on the matter.^{1/} The Justice

^{1/} Memorandum dated October 19, 1984, from James A. Fitzgerald, Assistant General Counsel, to Appeal Board.

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Department's determination is consistent with Applicant's view that Dr. Harstead was not in violation of the above-mentioned laws and that the factual situation should have no effect on matters before the Appeal Board in this proceeding.

I. BACKGROUND

In July, 1983, the Joint Intervenors in this operating license proceeding filed a Motion to Reopen Contention (First Motion to Reopen).^{2/} This motion sought to reopen Contention 22 because of the discovery by Applicant in May 1983 of hair-line cracks in Waterford's concrete foundation mat.^{3/}

Applicant retained Dr. Harstead's firm, Harstead Engineering Associates ("HEA"), to conduct an investigation of the cracks and water seepage in the foundation mat. On September 30, 1983, Applicant submitted an answer to Joint Intervenors' First Motion to Reopen. Applicant argued that the First Motion to Reopen was procedurally defective on a number of grounds and

^{2/} The motion was originally received by the Appeal Board on July 15, 1983, but was rejected without prejudice for failing to conform to the requirements of the Commission's Rules of Practice. See Order, July 18, 1983. Joint Intervenors resubmitted their motion dated July 22 and served it on July 25.

^{3/} Contention 22 was originally rejected on summary disposition by Licensing Board Order of October 20, 1981. The contention had alleged: "Applicant has failed to discover, acknowledge, report or remedy defects in safety related concrete construction."

that the motion failed to meet the NRC's standards for motions to reopen because it failed to raise a significant safety issue. In support of its argument that the First Motion to Reopen failed to raise a significant safety issue, Applicant attached affidavits of two Ebasco engineers and HEA Report No. 8304-1, September 19, 1983 (First Harstead Report). The First Harstead Report assessed the safety implications of the cracks and seepage in the foundation mat.

In a letter submitted by Applicant to Richard C. DeYoung, Director of the Office of Inspection and Enforcement, dated September 29, 1983, Applicant indicated that HEA was preparing a separate report analyzing the design adequacy of the foundation mat. This report, HEA Report No. 8304-2, October 10, 1983 (Second Harstead Report) was transmitted to the parties and to the Appeal Board on October 14, 1983.

Before the NRC staff filed its response, Joint Intervenors filed a second motion to reopen, dated November 7, 1983 (Second Motion to Reopen), which sought to reopen contention 8/9 (synergism) on the basis of a newspaper article discussing possible health effects that may have been associated with the Windscale plant in Great Britain. It was unrelated to the basemat issue.

The NRC staff responded to both motions to reopen in a document dated November 28, 1983. The staff opposed Joint Intervenors' First Motion to Reopen as untimely and for failing

to raise a significant safety issue. The staff's argument was supported by three affidavits executed by NRC engineers. The staff opposed the Second Motion to Reopen on procedural and jurisdictional grounds, as did Applicant.4/

In ALAB-753, 18 NRC 1321 (1983), the Appeal Board rejected Joint Intervenors' First Motion to Reopen as failing to raise a significant safety issue, and dismissed the Second Motion to Reopen on jurisdictional grounds. The Appeal Board's decision evidently crossed in the mail with yet another motion filed by Joint Intervenors. This document, dated December 12, 1983 and entitled Amended and Supplemental Motion to Reopen Contention 22, moved again to reopen Contention 22. The assertion in that motion, based on a Gambit newspaper article, was that the studies made by HEA and the NRC staff on the foundation mat relied on "falsified documents for their basic assumptions."

Applicant arranged for HEA to conduct a review of the QA and engineering records and determine whether any of the allegations in the newspaper articles would have affected the earlier studies or their results. A third report, No. 8304-3, January 9, 1984 (Third Harstead Report) was issued, upholding the earlier findings. This report was attached to Applicants' response to the Third Motion to Reopen.5/

4/ See Applicant's Opposition to Joint Intervenors' Motion to Reopen Contention 8/9, dated November 28, 1983.

5/ Applicant's Answer to Joint Intervenors' Amended and Supplemental Motion to Reopen Contention 22, dated January 13, 1984.

The NRC staff also opposed the Third Motion to Reopen.^{6/} The staff relied on an independent NRC investigation of the allegations raised in the Gambit article attached to the Third Motion to Reopen and relied on a design review conducted by the staff with assistance of consultants from the Brookhaven National Laboratory.^{7/}

The Appeal Board has deferred ruling on the Third Motion to Reopen pending receipt of additional information it requested from the staff. ALAB-786, 19 NRC _____, (Oct. 2, 1984).

Just prior to the issuance of the staff's response to the Third Motion to Reopen, counsel for the NRC staff sent a letter to the Appeal Board dated August 2, 1984 advising the Board that Dr. Harstead had served as a member of NRC staff's structural audit team during a one-week structural audit performed by the staff on the Waterford facility in April, 1981, and that Dr. Harstead has provided consulting services to the staff in connection with other facilities.

6/ NRC Staff's Answer to Joint Intervenors' Amended and Supplemental Motion to Reopen Contention 22, dated August 7, 1984. See also "Evaluation of Concrete Construction Adequacy in the Basemat, Waterford Unit No. 3" by Robert Philleo (hired as an NRC consultant) submitted with the NRC's Staff's Motion for Additional Extension of Time, June 14, 1984, and "Review of Waterford 3 Basemat Analysis," an evaluation done by Brookhaven National Laboratory dated July 18, 1984 and submitted with the NRC Staff's Motion for Extension of Time, dated July 25, 1984.

7/ Id. at 7.

The letter went on to say that the staff does not consider these facts to affect either the staff's review of the foundation mat or the Appeal Board's determination in this proceeding. The letter made no allegations of conflict of interest.

The Appeal Board asked the NRC General Counsel to advise it as to whether Dr. Harstead's work as a consultant to both the staff and LP&L raised a possible conflict of interest problem.^{8/} The General Counsel solicited affidavits and other information about Dr. Harstead from Applicant and the Staff. In a memorandum to the Appeal Board dated September 26, 1984, the General Counsel stated that Dr. Harstead may have violated certain conflict-of-interest statutes and regulations and that the Commission's Office of Inspector and Auditor had referred the the matter to the Department of Justice.^{9/} In response to this memorandum, the Appeal Board issued its Order of October 3, 1984, requesting comments on the effect, if any, a finding of a violation of the conflict of interest statutes and regulations should have on this proceeding.

^{8/} Letter from Appeal Board to Herzel H.E. Plaine, General Counsel, dated August 7, 1984.

^{9/} General Counsel stated that Dr. Harstead may have violated 18 U.S.C. §§ 203 and 205, 10 C.F.R. §§ 0.735-23 and 0.735-25.

II. DISCUSSION

The Justice Department's determination is consistent with Applicant's view that Dr. Harstead has not acted improperly. The facts of the situation do not affect the credibility or objectivity of HEA's work, and provides no basis for decreasing the reliance that can be placed on the reports.

The Commission's conflict of interest regulations are found at 10 C.F.R. Part 0. The objective of these rules, as set out in 10 C.F.R. § 0.735-2, is "to protect the interests of the public and employees by setting forth principles, practices and standards governing conduct of employees in such a manner that they may be readily understood by the individuals involved and practicably administered by the NRC." The regulations (10 C.F.R. §§ 0.735-23 and 0.735-25) cited by General Counsel were intended to create bright-line rules in order to alert NRC employees to situations which may create a conflict and to prevent them from entering situations which create the appearance of impropriety.^{10/}

Applicant has serious reservations about whether Dr. Harstead is the type of "employee" subject to the regulations and laws cited above.^{11/} Dr. Harstead is not and was not a

^{10/} The regulations are identical to 18 U.S.C. §§ 203 and 205, which were also cited by General Counsel.

^{11/} Dr. Harstead's work on behalf of the NRC on Waterford 3 was under contract as a "special Government employee." See Af-

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regular employee of the NRC. His work for the NRC has been occasional, and on a contractor or subcontractor basis. He is not and was not in a decision making capacity for NRC with respect to licensing matters. However, even if it is conceded that these rules apply, as with all bright-line rules, there will be some situations where a technical violation could occur even though the employee's substantive participation is fair, professional and otherwise unobjectionable. From the standpoint of regulating employee conduct, such a result is acceptable; the regulations are concerned as much with appearance as with actual bias. The Appeal Board however, is faced with a different question. As the decisionmaking body, it must weigh the credibility of the submissions before it. In this instance, there is no reason to discount the credibility on the submissions at issue.

As will be discussed more fully below, the work Dr. Harstead performed for the NRC in regard to Waterford was substantially different in both scope and subject matter from the work HEA subsequently performed for Applicant. In addition, other reports and affidavits submitted to the Appeal Board

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fidavit of Michael S. Callahan, September 4, 1984 at 2; Affidavit of Frank Rinaldi, September 4, 1984, enclosure at 1-2. Both the statutes and regulations provide an exemption for "special Government employees." See 18 U.S.C. §§ 203(c), 205; 10 C.F.R. §§ 0.735-23(b), 0.735-25(b).

independently affirm the substance of HEA's reports. There is therefore no basis for questioning the credibility of the work performed by HEA on behalf of Applicant.

A. DR. HARSTEAD'S WORK FOR THE APPLICANT WAS SUBSTANTIALLY DIFFERENT IN SCOPE AND SUBJECT MATTER FROM THE WORK HE PERFORMED FOR THE NRC CONCERNING WATERFORD

Dr. Harstead was engaged by the NRC to serve as a consultant to a team of technical experts that audited structural engineering design of all Category I structures for the Waterford facility from March through May of 1981. Affidavit of Frank Rinaldi, September 4, 1984, Enclosure to Attachment 1 at 1-2; Affidavit of Gunnar Harstead, August 23, 1984 at 2.12/ As a member of the audit team, Dr. Harstead gathered and analyzed information on Category I structures from Ebasco engineers.13/ He also asked Ebasco for additional information and technical clarification when appropriate.14/ The audit took approximately 88 hours of Dr. Harstead's time, with less than 10 of

12/ Mr. Rinaldi's affidavit (and some other NRC affidavits) were transmitted by cover letter from Guy H. Cunningham III, Executive Legal Director, to Martin G. Malsch on September 4, 1984. Dr. Harstead's affidavit was transmitted by cover letter from counsel for Applicant (Bruce W. Churchill) to Martin G. Malsch on August 24, 1984. Copies of both letters and affidavits were simultaneously mailed to the Appeal Board and all others on the Waterford 3 service list.

13/ Rinaldi Affidavit, Enclosure to Attachment 1 at 2; Harstead Affidavit at 1.

14/ Id.

these hours spent on consideration of the basemat.^{15/} The audit produced no formal report or document. Dr. Harstead did keep some notes that he took during a presentation by Ebasco engineers, but these notes are only descriptive of the Waterford structures (including the basemat) as presented by Ebasco.^{16/} Dr. Harstead himself reviewed no calculations and performed no separate analysis of the basemat during the structural audit.^{17/} Neither Dr. Harstead nor HEA has done any other work on the Waterford license on behalf of the NRC.^{18/}

The work Dr. Harstead and HEA performed for applicants from 1983-1984 was substantially different in both scope and magnitude from the work performed by Dr. Harstead during the 1981 structural audit. HEA was retained by Applicant in late

^{15/} Harstead Affidavit at 2.

^{16/} Id. at 1.

^{17/} Harstead Affidavit at 1.

^{18/} HEA has worked on occasion as a consultant under subcontracts to contractors with the NRC's Office of Inspection and Enforcement. Affidavit of Robert E. Shewmaker, September 4, 1984, Attachment 1, Enclosure 1 at ¶5. None of this work involved the Waterford 3 facility. Id. at ¶2. This relationship between the NRC and HEA is simply too remote to create any conflict of interest in regard to the Waterford facility.

Dr. Harstead's personal contract as a special Government employee expired on June 30, 1984. His work for the NRC in this capacity had dwindled from 85 days in 1982, to 0 days in 1983, and only 9 days in 1984. See Affidavit of Michael S. Callahan, September 4, 1984 at 2. None of this work involved the Waterford 3 facility. Rinaldi Affidavit, Enclosure at 1.

July, 1983, more than two years after serving on the NRC audit team, as an independent engineering firm to conduct an analysis of the cracks and water seepage discovered in the basemat. See Applicant's Request For Extension of Time, August 4, 1983. HEA produced three reports for Applicant. The First Harstead Report reviewed the foundation mat's design concepts, reviewed significant events during construction, analyzed the basemat's structural foundations, reviewed the engineering design and construction of the basemat, evaluated the cracking in the basemat, evaluated the stability of the steel containment, and analyzed the potential for corrosion due to water seepage. The report concluded that the cracks did not affect the structural integrity of the foundation mat, and that there was no danger of corrosion due to water seepage through the cracks. First Harstead Report at 38-40. The Second Harstead Report reviewed the adequacy of the design of the foundation mat. HEA developed and performed its own analysis of the design and made a detailed comparison with Ebasco's design analysis. The report concluded that the design of the mat was extremely conservative, Second Harstead Report at 23, and that the cracking had little influence on structural capacity. Id. at 20-21. The Third Harstead Report issued in January 1984. This report was conducted at the request of Applicant in response to allegations made about quality control documentation in the Gambit article presented as the basis for Joint Intervenor's Third

Motion to Reopen. The purpose of the study was to review documentation which was kept during the construction of the basemat to determine whether the design objectives were obtained during construction and to determine whether the two earlier Harstead reports were still valid. HEA reviewed documentation associated with concrete pour packages, reviewed nonconformance reports, cadwelding activities, the clam shell filter blanket and water stop splicing. The report concluded that the basemat design objectives were accomplished and that the previous two Harstead reports required no modification. Third Harstead Report at 14.

These three reports represent about 2,000 of hours of work by HEA associated with the cracks and seepage in the foundation mat. Harstead Affidavit at 2. In contrast, Dr. Harstead's consideration of the foundation mat during the 1981 structural audit consumed less than 10 hours (by Dr. Harstead's estimation), did not involve any independent analysis, and did not include any consideration of cracks or seepage. Id. at 1-2. See also Rinaldi Affidavit at 2. There is no basis for concluding that the work Dr. Harstead performed for the NRC in 1981 had any effect on the design or outcome of the studies he conducted for Applicant in 1983-1984. In addition, Dr. Harstead has attested that his work with HEA on the Waterford basemat for LP&L has been totally objective and impartial, and totally unaffected by his previous work on Waterford for the NRC. Harstead Affidavit at 2.

In light of the above-described facts, the Appeal Board should continue to view Dr. Harstead's work for the Applicant as objective, professional and unbiased.

- B. INDEPENDENT STUDIES AND STATEMENTS THAT ARE PART OF THE RECORD SUPPORT THE CONCLUSIONS MADE IN THE HARSTEAD REPORT, CLEARLY SHOWING THE REPORTS TO BE OBJECTIVE, PROFESSIONAL, AND UNBIASED.

The work done by HEA on behalf of Applicant has been independently confirmed by numerous other studies and experts that have examined the basemat cracking and seepage problem. This agreement as to the basic conclusions concerning the basemat problems among numerous professionals strongly negates any inference that the HEA reports were biased by Dr. Harstead's previous work for the NRC.

Affidavits of NRC experts that were attached to the NRC staff's November 28, 1983 answer to Joint Intervenors' First Motion to Reopen supported the conclusions reached in the First and Second Harstead Reports. These affidavits concluded that Applicant's analysis and design of the foundation base mat was adequate, that the foundation underlying the base mat provides adequate support for the base mat and the structures and equipment on top of the base mat, and that the cracks will not result in any adverse environmental impact following the commencement of plant operation.^{19/} Affidavits of two Ebasco

^{19/} Affidavit of John S. Ma, November 28, 1983 at 4-5; Affidavit of Ramon Pichumani, November 28, 1983 at 3; Affidavit of

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engineers submitted by Applicant as part of its Answers to Joint Intervenors' First Motion to Reopen (September 30, 1983) provide additional corroboration.^{20/} Interim reports issued by the NRC indicate that generally the conclusions in the Harstead reports were sound. A report submitted by the NRC's Structural Engineering Branch found that "the procedures and approaches utilized in the applicant's analysis and design of the basemat are sufficiently conservative and are acceptable," and that water seepage through the basemat did not present a threat of corrosion.^{21/} A report issued by Robert E. Philleo evaluated the effect of documentation problems on the basemat and concluded that "the construction of the basemat was adequate" and that the documentation problems were not "of a nature which

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Raymond O. Gonzales, November 28, 1983 at 2. Compare to Second Harstead Report at 22-23 (design of basemat conservative); First Harstead Report at 24 (cracks do not give any evidence at all of any structural distress); *Id.* at 37 (confirming stability of Shield Building with respect to the basemat); *Id.* at 27 (crack so small there is no chance of intrusion of corrosive materials). See also letter of August 2, 1984, from Sherwin E. Turk to the Appeal Board at page 2.

^{20/} See Affidavit of Joseph L. Ehasz, September 27, 1983 (affidavit discusses design of basemat, probable origins of cracks and concludes that the cracks have no adverse impact on safety); Affidavit of William E. Gundaker, September 27, 1983 (chemistry of groundwater presents no threat of corrosion to reinforcing steel in basemat).

^{21/} "Safety Evaluation of the Structural Adequacy of the Waterford 3 Basemat", April 27, 1984, at Enclosure 2, p. 3, and Enclosure 4.

would impair structural integrity."^{22/} Most recently, the NRC retained Brookhaven National Laboratory to conduct an independent analysis of the Waterford 3 basemat. A report was issued by BNL, dated July 18, 1984, and updated by an addendum dated August 3. Although the Appeal Board in ALAB-786, felt that the BNL report raised some "unanswered questions," neither the Appeal Board nor any other party has questioned the conclusion of BNL that upon review of the information, reports, and computer outputs supplied to BNL by HEA (and by EBASCO and Applicant) "normal engineering practice and procedures for the analysis of nuclear power plant structures were employed." Review of Waterford 3 Basemat Analysis (BNL), July 18, 1984 at 25.

The extensive and detailed scrutiny of the basemat problems by numerous independent sources confirm that the HEA Reports were done in a professional and unbiased manner. The fact that Dr. Harstead helped on an NRC structural audit of the Waterford plant for a brief period in 1981 does not change this result.

^{22/} "Evaluation of Concrete Construction Adequacy in the Basemat, Waterford Unit No. 3," May 18, 1984, at 7, attached to NRC Staff's Motion for Additional Extension of Time, June 14, 1984. Compare Third Harstead Report at 14 (review of construction records indicate no modification of earlier reports is necessary).

III. CONCLUSION

The circumstances that prompted the question of whether conflict of interest laws had been violated should not have any affect on matters before the Board. The work Dr. Harstead has performed with HEA at the request of Applicant is substantively different in both scope and nature from the work he performed for the NRC during the brief 1981 structural audit. Also, the other reports and expert analysis given to the basemat issues confirm the professional, unbiased nature of HEA's submissions to the Appeal Board. There is therefore no reason for the Appeal Board to alter its evaluation of any of the HEA reports.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

Bruce W. Churchill (ADW)

Bruce W. Churchill, P.C.
Alan D. Wasserman

Counsel for Applicant
1800 M Street, N.W.
Washington, D.C. 20036
(202) 822-1000

Dated: November 14, 1984

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Appeal Board

In the Matter of)
)
LOUISIANA POWER & LIGHT COMPANY) Docket No. 50-382 OL
)
(Waterford Steam Electric Station,)
Unit 3))

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing "Applicant's Comments in Response to October 3, 1984 Order" were served, by deposit in the United States mail, first class, postage prepaid, to all those on the attached Service List, this 14th day of November, 1984.


Alan D. Wasserman

Dated: November 14, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

In the Matter of)
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)
(Waterford Steam Electric)
Station, Unit 3))

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Christine N. Kohl Administrative Judge Chairman, Atomic Safety and Licensing Appeal Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Sheldon J. Wolfe Administrative Judge Chairman, Atomic Safety and Licensing Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555
W. Reed Johnson Administrative Judge Atomic Safety and Licensing Appeal Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Harry Foreman Administrative Judge Atomic Safety and Licensing Board Director, Center for Population Studies Box 395, Mayo University of Minnesota Minneapolis, MN 55455
Howard A. Wilber Administrative Judge Atomic Safety and Licensing Appeal Board U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Walter H. Jordan Administrative Judge Atomic Safety and Licensing Board 881 West Outer Drive Oak Ridge, TN 37830
Sherwin E. Turk, Esquire Office of the Executive Legal Director U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Docketing & Service Section (3) Office of the Secretary U.S. Nuclear Regulatory Commission Washington, D.C. 20555
Atomic Safety and Licensing Appeal Board Panel U.S. Nuclear Regulatory Commission Washington, D.C. 20555	Atomic Safety and Licensing Board Panel U.S. Nuclear Regulatory Commission Washington, D.C. 20555

LP&L
Service List-ASLAB
Page Two

Mr. Gary Groesch
2257 Bayou Road
New Orleans, LA 70119

Brian Cassidy, Esquire
Federal Emergency Management
Agency
Region I
422 J. W. McCormack
Boston, MA 03109

Carole H. Burstein, Esquire
445 Walnut Street
New Orleans, LA 70118

Luke B. Fontana, Esquire
824 Esplanade Avenue
New Orleans, LA 70116

Spence W. Perry, Esquire
Federal Emergency Management
Agency
Office of the General Counsel
500 C Street, S.W., Room 840
Washington, D.C. 20472