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A PARTNERSHIP OF PROFESSIONAL CORPORATIONS
1800 M STREET, N. W.
WASHINGTON, D. C. 20036
(202) 822-1000 & 822-1100
TELEX
89-2693 (SHAWLAW WSH)
CABLE "SHAWLAW"
TELEPHONE
(202) 822-1063

October 22, 1982

JAY E. SILBERG, P.C.

Ms. Susan L. Hiatt
OCRE Representative
8275 Munson Road
Mentor, Ohio 44060

Re: The Cleveland Electric Illuminating Co., et al. (Perry Nuclear Power Plant, Units 1 and 2) Docket Nos. 50-440, 50-441

Dear Ms. Hiatt:

Your letter of October 18, 1982, states your belief that Applicants made a "misstatement" in their Answers to OCRE's Fourth Set of Interrogatories, dated September 28, 1982. The statement which you claim to be in error is that Applicants had sent to the service list their response to an NRC Staff question. If you will refer to our May 6, 1982 letter to you (with copies to the service list), you will find attached the response in question.

The second matter raised in your letter concerns the attachment to the February 3, 1978 letter from Ross and Eisenhut, NRC, to G. Sherwood, GE. You indicate that Mr. Wilt has been unable to locate this document. That document was sent to Mr. Wilt by letter dated April 5, 1982. A copy of that letter and its attachments are enclosed.

Rather than burdening the service list with these types of filing problems, it would be more expeditious if you would simply call me. Since I had in fact spoken with you on October 18, you could have saved all of us some paperwork if you had informally mentioned these problems to me at that time.

Sincerely,

JAY E. SILBERG

Enclosure
cc: Service List
JES:lam

DS03

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

'82 OCT 25 A11:37

Before the Atomic Safety and Licensing Board

In the Matter of	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	Docket Nos. 50-440 50-441
(Perry Nuclear Power Plant, Units 1 and 2)	)	

SERVICE LIST

Peter B. Bloch, Chairman
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Jerry R. Kline
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Frederick J. Shon
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Christine N. Kohl, Chairman
Atomic Safety and Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. John H. Buck
Atomic Safety and Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gary J. Edles, Esquire
Atomic Safety and Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing
Board Panel
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

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

James M. Cutchin, IV, Esquire
Office of the Executive
Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Ms. Sue Hiatt
OCRE Interim Representative
8275 Munson Avenue
Mentor, Ohio 44060

Daniel D. Wilt, Esquire
Post Office Box 08159
Cleveland, Ohio 44108

Donald T. Ezzone, Esquire
Assistant Prosecuting Attorney
Lake County Administration Center
105 Center Street
Painesville, Ohio 44077

John G. Cardinal, Esquire
Prosecuting Attorney
Ashtabula County Courthouse
Jefferson, Ohio 44047

Terry Lodge, Esquire
915 Spitzer Building
Toledo, Ohio 43604

SHAW, PITTMAN, POTTS & TROWBRIDGE
1800 M STREET, N. W.
WASHINGTON, D. C. 20036

RAMSAY D. POTTS
STEUART L. PITTMAN
GEORGE F. TROWBRIDGE
STEPHEN D. POTTS
GERALD CHARNOFF
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WINTHROP N. BROWN
JAMES B. HAMLIN
RANDAL B. KELL
ROBERT E. ZAHLER
RICHARD E. GALEN

(202) 822-1000

TELECOPIER
(202) 822-1099 & 822-1199

TELEX
89-2693 (SHAWLAW WSH)
CABLE "SHAWLAW"

WRITER'S DIRECT DIAL NUMBER
202-822-1417

ROBERT B. ROBBINS
STEVEN M. LUCAS
DAVID M. RUBENSTEIN
LYNN WHITTLESEY WILSON
MATIAS F. TRAVIESO-DIAZ
VICTORIA J. PERKINS
JOHN H. O'NEILL JR.
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SANDRA E. FOLSOM
MARCIA R. HIRSHSTEIN
JUDITH A. SANDLER
EDWARD D. YOUNG, III
WENDELIN A. WHITE

April 5, 1982

Daniel D. Wilt, Esquire
Wegman, Hessler & Vanderburg
Suite 102
7301 Chappewa Road
Brecksville, Ohio 44141

Re: The Cleveland Electric Illuminating Co., et al.
(Perry Nuclear Power Plant, Units 1 and 2)
Docket Nos. 50-440, 50-441

Dear Mr. Wilt:

With regard to your letter of March 24, 1982, I am enclosing the following items:

Pages 8-2, 8-4, and C-2 of NEDO-24712.

The attachment referenced in the February 3, 1978, letter from Darrell G. Eisenhut and Denwood F. Ross to G. G. Sherwood.

Sincerely,

Robert L. Willmore

RLW:jd

Enclosures

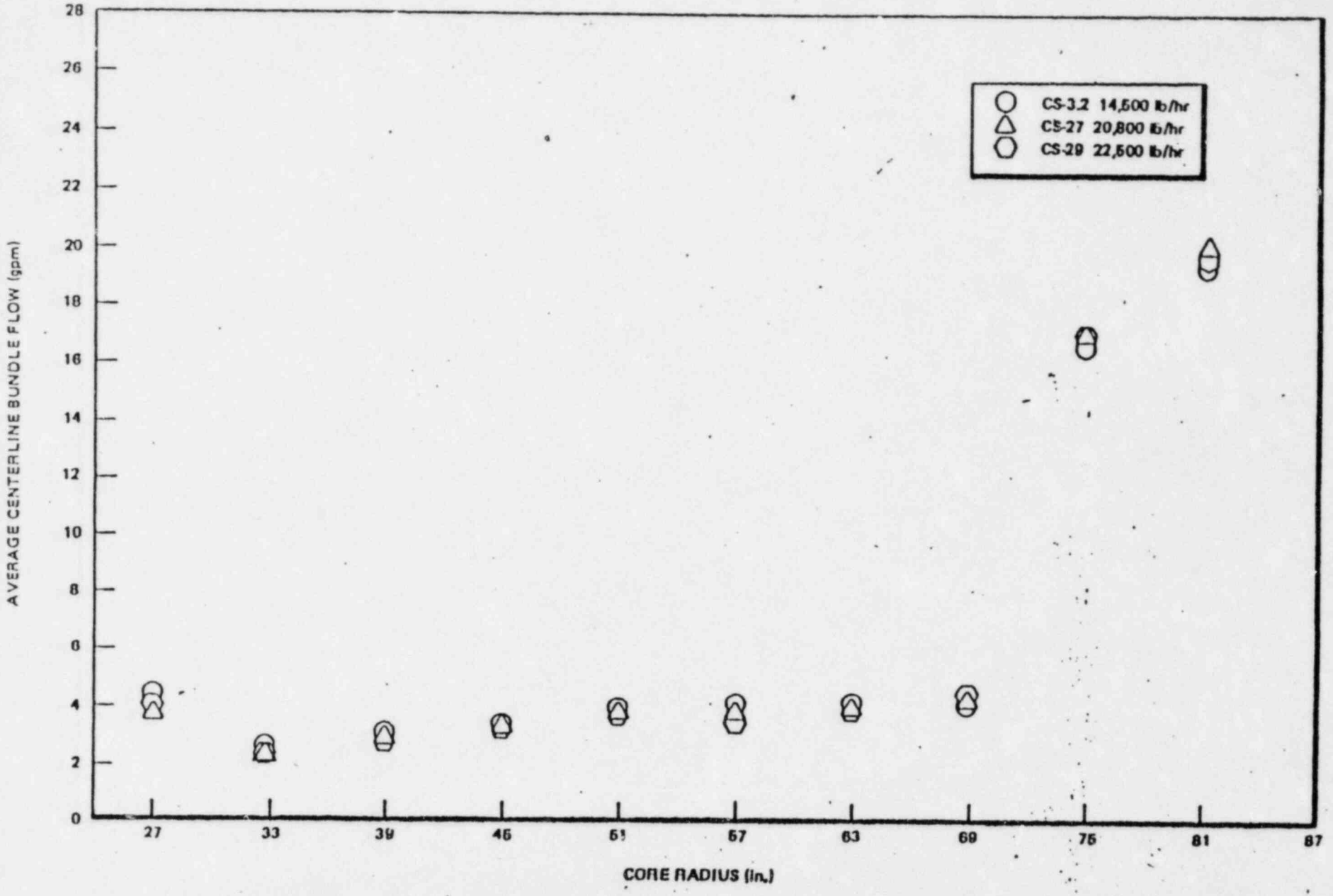

Figure 8-1. Steam Updraft Effect on Spray Distribution for HPCS

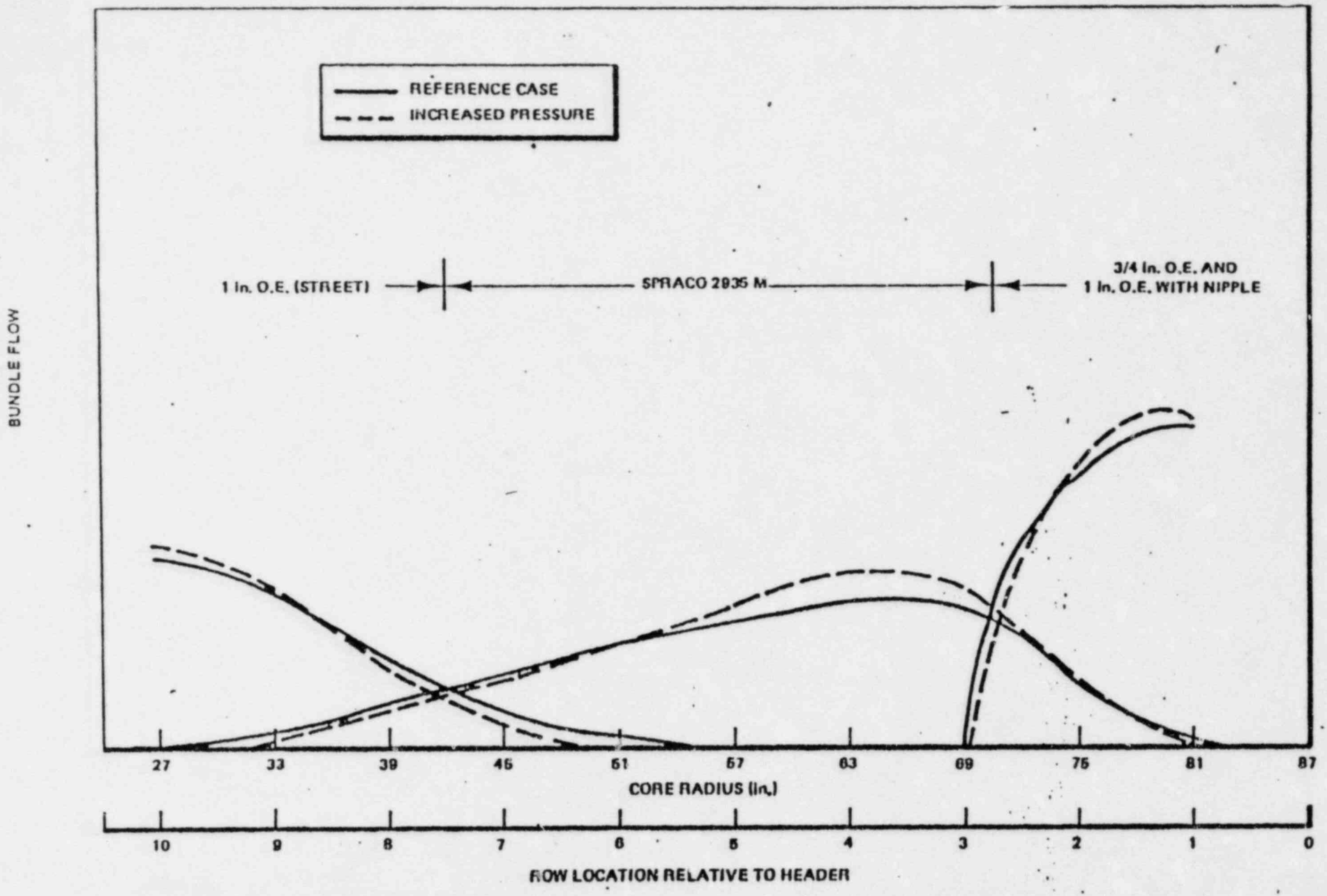

Figure 8-3. Individual Nozzle Distribution Regions

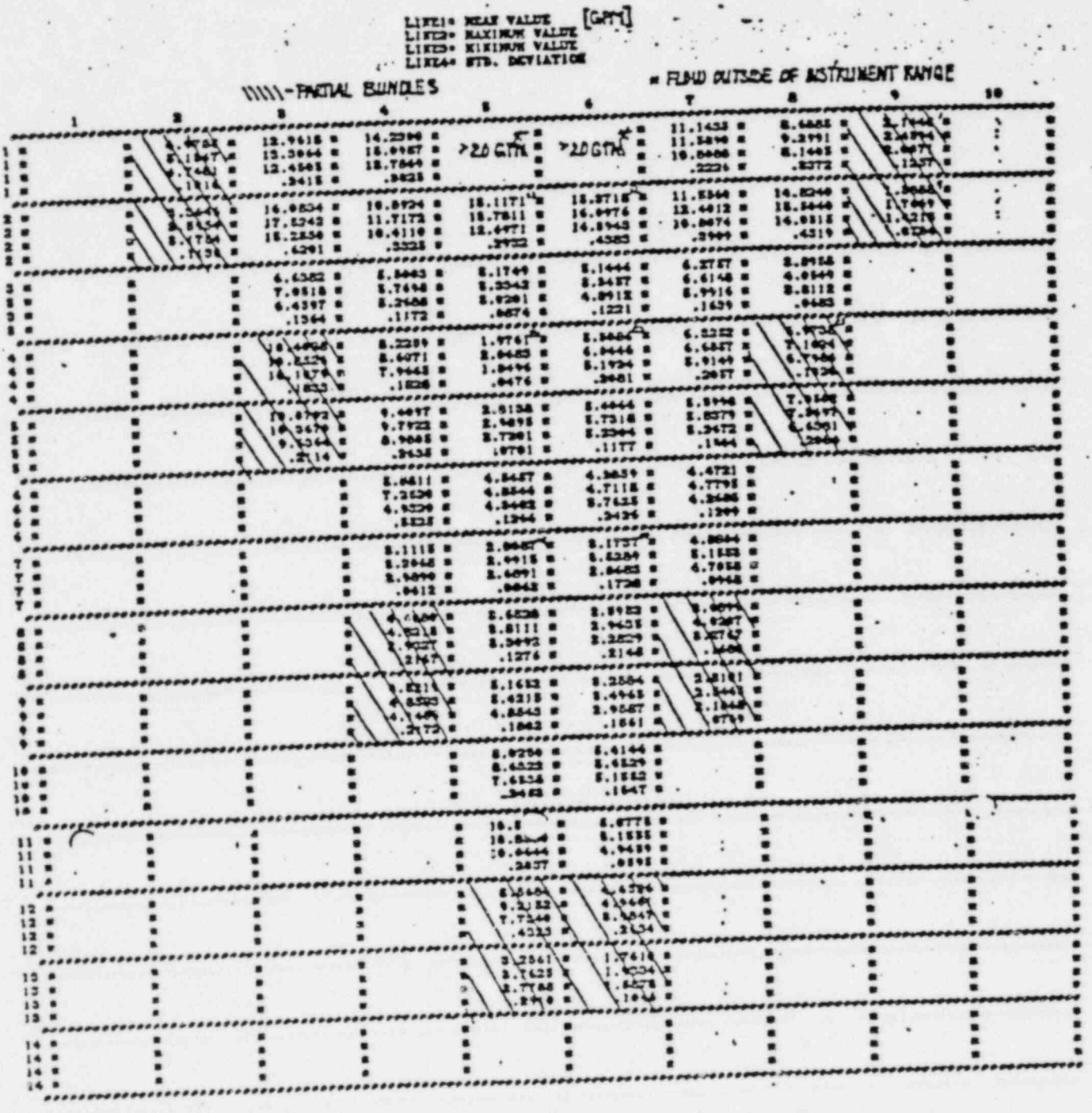

Figure C-1. Core Flow Map; Run 1-1

REQUEST FOR ADDITIONAL INFORMATION

GE CORE SPRAY DISTRIBUTION PROGRAM

The items marked 1/19/78 below include all requirements identified at the January 19, 1978 GE-NRC Core Spray Distribution meeting in Bethesda.

The list below also includes a compilation of outstanding questions from all other question lists on this subject. The list below therefore replaces those previous lists. Those marked 12/15/77 below were previously asked at the NRC-GE meeting in San Jose on that date (see 12/29/77 minutes of that meeting); those marked 9/2/77 below were previously contained in a letter of that date from O. Parr, NRC, to G. Sherwood, GE, concerning our review of Amendment 3 to NEDO-20566 which addresses this subject. You will note that questions 1-a, 1-b, 2, 3-a, 3-b, 3-d, 3-e, 3-f, 4, 5, 9, 10 and 12 of the 9/2/77 list are not included below. Although we still require the information requested by those questions, we believe more comprehensive information will be available in those areas when results are available from the new test facility at Lynn, Massachusetts; we therefore defer our requirements for this information until that time.

1) (1/19/78) Provide a list of the General Electric Company's criteria for acceptance of the experimental results from the full scale, 30°-sector-in-steam tests. The criteria should state qualitatively and quantitatively: a) what parameters will be measured and exactly how GE will determine whether the results verify or contradict the hypothesis that thermal and hydrodynamic effects are separable; and b) how the spray distribution under accident conditions will be conservatively represented in licensing analyses.

2) (1/19/78) Provide copies of the references cited by Dr. Sandoz at the 1/19/78 meeting regarding size of the steam condensing region surrounding a nozzle. Describe why GE believes that this data is appropriate for application to a BWR spray system (e.g., that the geometry, spray flow rates, subcooling, and steam pressures are similar in the referenced tests and in BWR's following a postulated LOCA). Please include pictures of typical BWR single nozzle spray patterns in steam.

3) (1/19/78) Present a clear schedule of the overall program, including all experimental and analytical steps presently planned, to determine the predicted core spray distribution in a steam environment for the BWR/6 design and any other designs for which tests are currently planned. Include tests to be run at the Lynn facility, at the San Jose single nozzle steam facility, and at the Vallecitos full scale air facility.

4) (1/19/78) Discuss how and when GE will administratively inform BWR licensees and applicants that GE has the capability of determining steam environment core spray distributions for various plant sizes and designs. For example, will GE volunteer to perform this determination for older plant designs, or will GE issue a letter to older plants that the methods are available upon request, or will GE expect the licensees and applicants to make the initial inquiries regarding availability of the service, etc?

5) (1/19/78) We have heard several presentations regarding test programs to be accomplished at the Lynn, Massachusetts full scale 30°-sector steam test facility. Each presentation has emphasized investigation of either core spray (CS) distribution or counter-current-flow-limiting (CCFL) phenomena. In reality, the two are closely coupled. Please provide a written description regarding how the facility will be utilized to investigate the closely coupled relationship of CS and CCFL phenomena.

6) (1/19/78) Quantify the expected effects of the smaller amount of steam condensation that is expected to occur in the "hydrodynamic" region. Why does GE expect that this condensation will not invalidate the "separability" hypothesis? (The January 19 meeting disclosed that approximately 25% of the total condensation is expected in this region.)

7) (1/19/78) What air updraft velocities will be utilized in future Vallecitos air-water full scale tests to simulate steam velocities in the post-LOCA environment? Justify the conservatism of the simulation, including magnitude and direction of the air flow with respect to predicted steam magnitude and direction following a LOCA.

8) (1/19/78) Describe and document the results given at the 12/15/77 meeting regarding: a) minimum flow currently predicted per channel, without consideration of steam effects, for BWR/2 through BWR/6 plants, and b) provide a comparison of that minimum flow to "minimum required flow" (three different definitions should be used for this quantity as discussed at the 12/15/77 meeting). The material was presented on slides TWC-10 (12/12/77) and TWC-11 (12/12/77) at the 12/15/77 meeting.

9) (12/15/77) Provide documentation regarding why GE believes steam and water flow patterns in the Lynn 30° test facility will adequately represent the flow patterns that might be present in a full 360° reactor upper plenum following a LOCA. Include discussion of tests both with and without the "pie-shaped baffle" in place.

10) (12/15/77) Quantify the conservatisms resulting from certain features of the present GE-ECCS-LOCA model, which were qualitatively discussed at the 12/15/77 meeting.

11) (12/15/77) Provide the "CCFL delay vs. zero spray coefficient" tradeoff results (discussed in slides SCR-5 through SCR-8 (12/15/77)) for the sizes and types of jet-pump BWR plants whose results were not presented at the 12/15/77 meeting, and for the second most limiting break location for "LPCI-Modified" BWR's.

12) (Previous number 1-C, 9/2/77) The proposed tests do not include possible effects due to the different steam qualities that might be present under various conditions. Water droplets entrained in the steam may change the interaction of the steam and the spray cone. Describe how GE plans to quantify such possible effects experimentally and/or analytically.

13) (Previous number 3-C, 9/2/77) For "Air Mockup of Steam Environment" tests that will employ Vee Jet Nozzles, will those nozzles be modified to simulate steam effects, and if so, how?

14) (Previous number 6, 9/2/77) Provide the data for the lower sparger test discussed in the first paragraph of page 4-6.

15) (Previous number 7, 9/2/77) What updraft was present in the tests reported by Figures 4-5 and 4-6?

16) (Previous number 8, 9/2/77) There appears to be a discrepancy between Figure 4-6 and Table 4-1 on the minimum measured channel flow. For example, no channel in the periphery had a 3.4 gpm flow for VNC nozzles with deflectors in and no intermediate channel had a minimum flow of 6.8 gpm with VNC nozzles, deflectors out. Please explain the apparent discrepancy.

17) (Previous number 11, 9/2/77) Justify your assumption that one-half of the "Appendix K" quoted core spray heat transfer coefficients can be used when spray flow to a bundle is below minimum design flow. You should provide results of experimental spray heat transfer coefficient measurements taken at lower spray flows. Also, you should quantitatively demonstrate that actual penetration of the assumed (lower) flow into the bundle is consistent with your CCFL data and correlations, under all conditions predicted by your ECCS calculations where this assumption of lower heat transfer coefficients is made.

18) (Previous number 13, 9/2/77) GE has changed the type of nozzles used in various BWR designs, for example between the BWR/3 and BWR/4. Please provide the rationale for such changes, including a description of any tests which indicated the desirability for the above mentioned change, and the results of those tests.