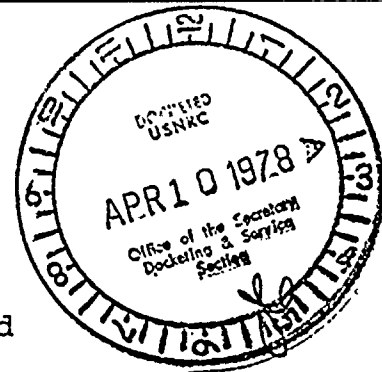


RELATED COPY
UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

3/31/78



In the Matter of)
PACIFIC GAS & ELECTRIC COMPANY)
(Diablo Canyon Nuclear Power Plant,)
Units 1 and 2)

Docket Nos. 50-275 O.L.
50-323 O.L.

INTERVENOR'S RESPONSE TO PACIFIC GAS and ELECTRIC
COMPANY'S RESPONSE and SUPPLEMENTAL RESPONSE to
INTERVENOR'S PETITION TO ESTABLISH THE QUALIFICATIONS
OF SECURITY EXPERT FOR DISCOVERY

On February 1, 1978, .SAN LUIS OBISPO MOTHERS FOR
PEACE ("SLOMFP") requested this Licensing Board to determine
that Dr. Douglas L. DeNike and Dr. Bruce L. Welch were
qualified experts to review for discovery purposes and in
compliance with the Board's "Order Relative to Motions
Concerning Intervenor's Security Contention", dated November 3,
1977, and received December 6, 1977. On February 13, 1978,
Pacific Gas and Electric Company ("PG&E") filed an initial
response submitting that Dr. DeNike should not be qualified
as an expert witness by this Board because this Board had
already ruled in its Order of November 3, 1977 that Dr. DeNike



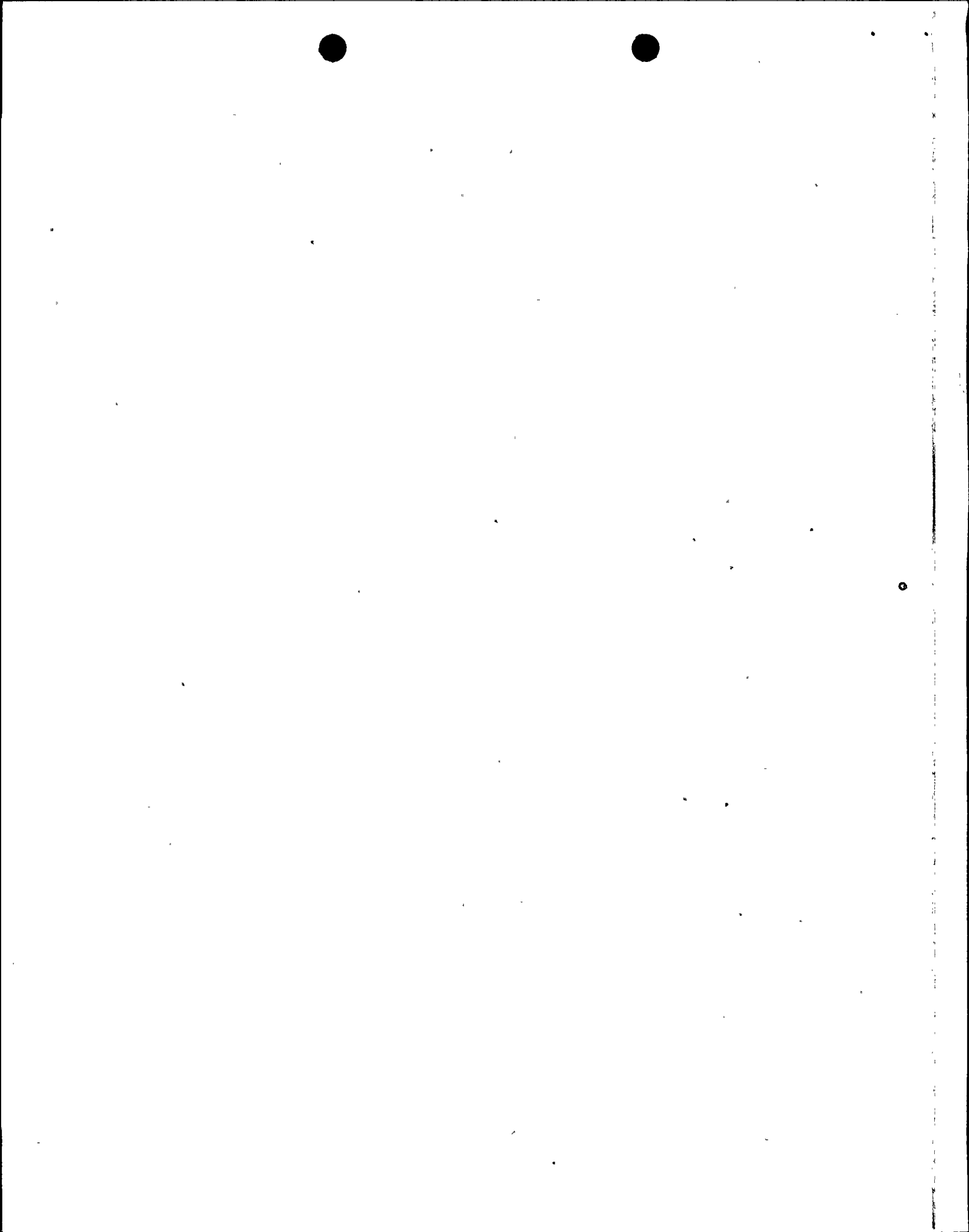
was not so qualified. The NRC staff concurred in this request in a response filed February 17, 1978. On February 24, 1978 Dr. Bruce Welch was deposed pursuant to stipulation, and on March 9, 1978, PG&E filed a supplemental response urging that this Board find Dr. Bruce L. Welch is not qualified to engage in discovery of the Applicant's security plan.

SLOMFP hereby requests that, for the reasons stated herein, this Board find:

1. That Dr. Douglas DeNike is qualified to examine such portions of the Applicant's security plan as is necessary to determine whether the Applicant has complied with 10 CFR 73.55 with respect to those limited matters identified in paragraphs numbered 1, 2, and 5 of the Amended Security Contention filed by the Intervenor on January 18, 1978.

2. That Dr. Bruce L. Welch is qualified to examine such portions of the Applicant's security plan as is necessary to determine whether the Applicant has complied with 10 CFR 73.55 with respect to those limited matters identified in paragraphs numbered 1, 2, 3, and 9 of the Amended Security Contention filed by the Intervenor on January 17, 1978.

3. That this Board determine that Richard L. Hubbard, whose qualifications are attached as Exhibit "A" hereto, be qualified as an expert witness to examine such portions of the



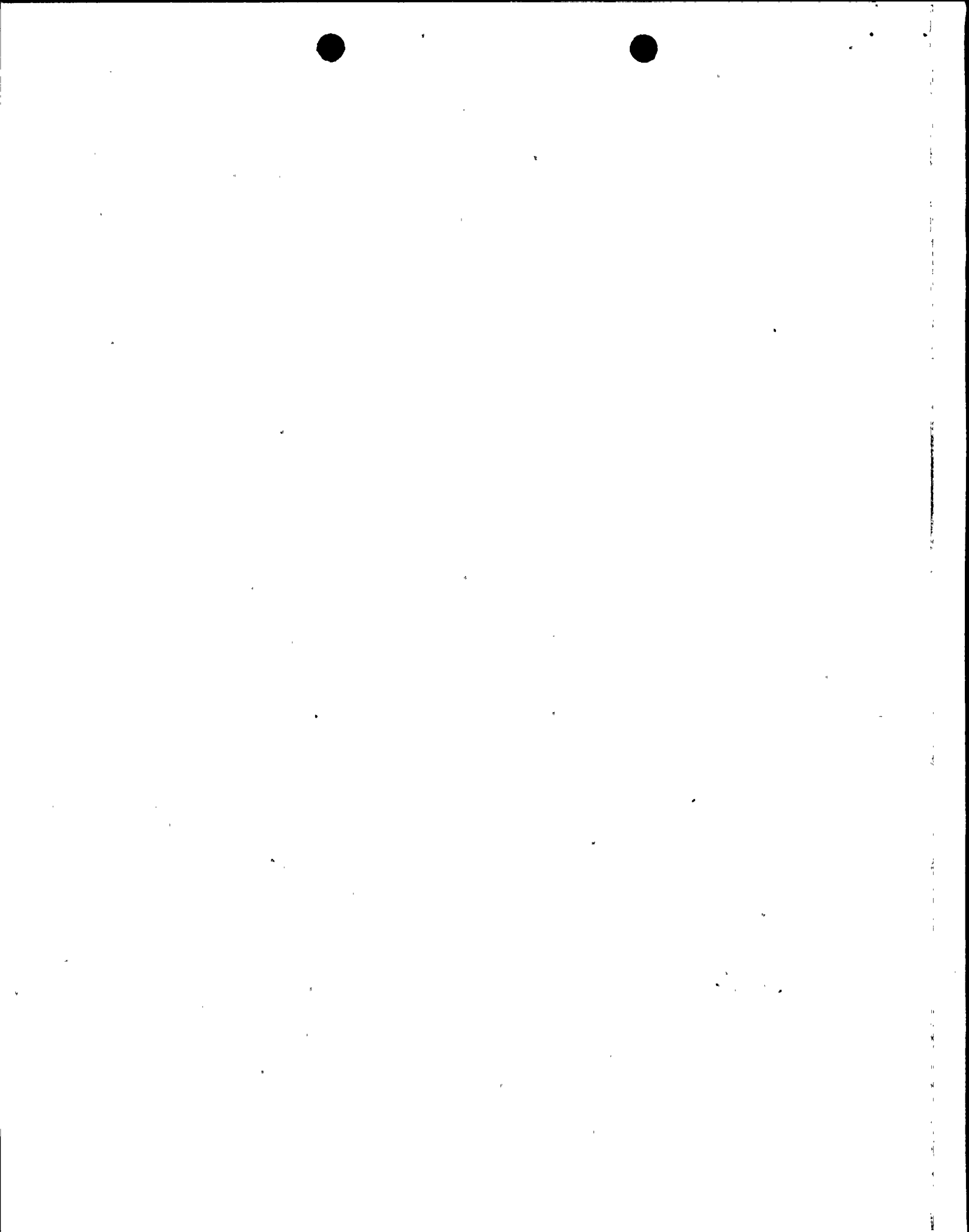
of the Applicant's security plan as is necessary to determine whether the Applicant has complied with 10 CFR 73.55 with respect to those limited matters identified in paragraphs numbered 4, 6, 7, and 8 of the Amended Security Contention filed by the Intervenor on January 17, 1978.

SOME BASIC PRINCIPLES

SLOMFP submits that it would be useful at this juncture to review some basic principles that have evolved in this tortured discovery procedure. Intervenor is attempting at this point to comply with the basic principles established by the Atomic Safety and Licensing Appeal Board in its decision of June 9, 1977, which established, in essence:

1. The plan's "relevancy" must be demonstrated by the party requesting access to the plan. Only those portions of the plan which the Intervenor can demonstrate are relevant to its contention should be released to it, and that, while it is not necessary to review "all the gory details", "the Intervenor obviously must be allowed sufficient information about the plan to ascertain which, if any, particular portions of it bear on its contentions".^{1/}

^{1/} Memorandum and Order in the Matter of Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Units 1 and 2), Docket No. 50-275 O.L. and 50-323 O.L. ALAD-410, pp. 11, 12.



2. If, and to the extent released, the plan may and probably should be subject to a protective order.^{2/}

3. A security plan need not be revealed to a witness who lacks relevant expertise for evaluating it. Access to the plan or portions thereof should be given only to witnesses who have been shown to possess technical competence necessary to evaluate portions of the plan which they may be shown. That the party sponsoring the witnesses has the burden of demonstrating his expertise.^{3/}

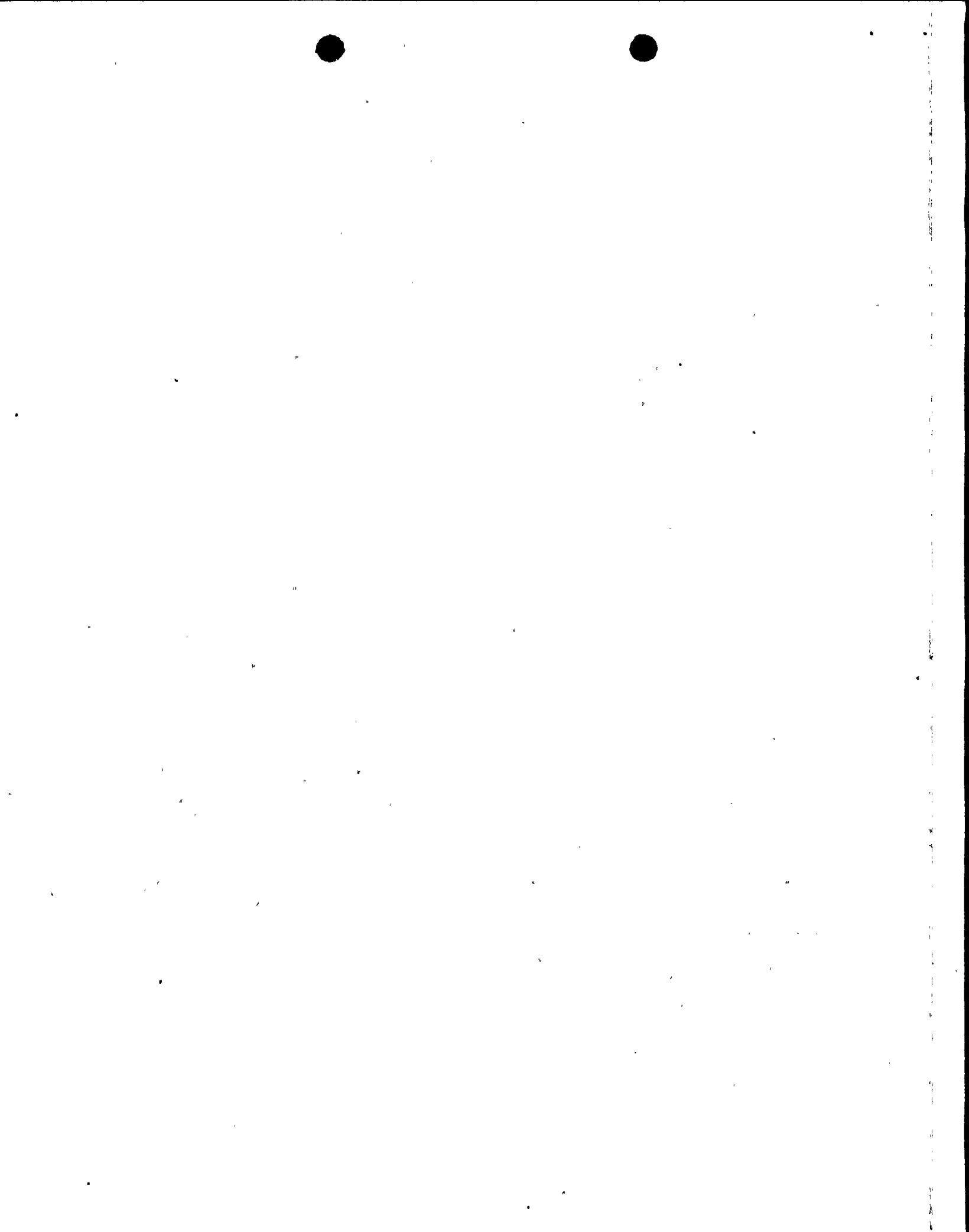
In the application of these general principles, the Board then established these guidelines:

1. That review of the plan is to be limited to the plan as revised in accord with the Commission's newly issued regulations, (10 CFR 73.55) and that only those portions that are relevant and necessary to the litigation of the Intervenor's contention need to be released to the Intervenor's representatives, and then only under protective order.^{4/} The Board notes that the Applicant might be directed to provide a "sanitized" plan to the Intervenor's attorney and its qualified experts, together with a general description of the type of information omitted from each section of the plan from which information has been deleted. That, if the

^{2/} Memorandum and Order, supra, n. 1, at p. 12.

^{3/} Ibid., at p. 13.

^{4/} Ibid., at p. 15.



Intervenor believes that the deleted information is necessary to litigate his contention, then a request could be made for that information.^{5/}

2. That the protective order contemplated by the preceding paragraph should be in accord with the Licensing Board's Order of June 23, 1976. SLOMFP notes here that it has no objection to the provisions for the imposition of a protective order and concurs in the necessity for a protective order.

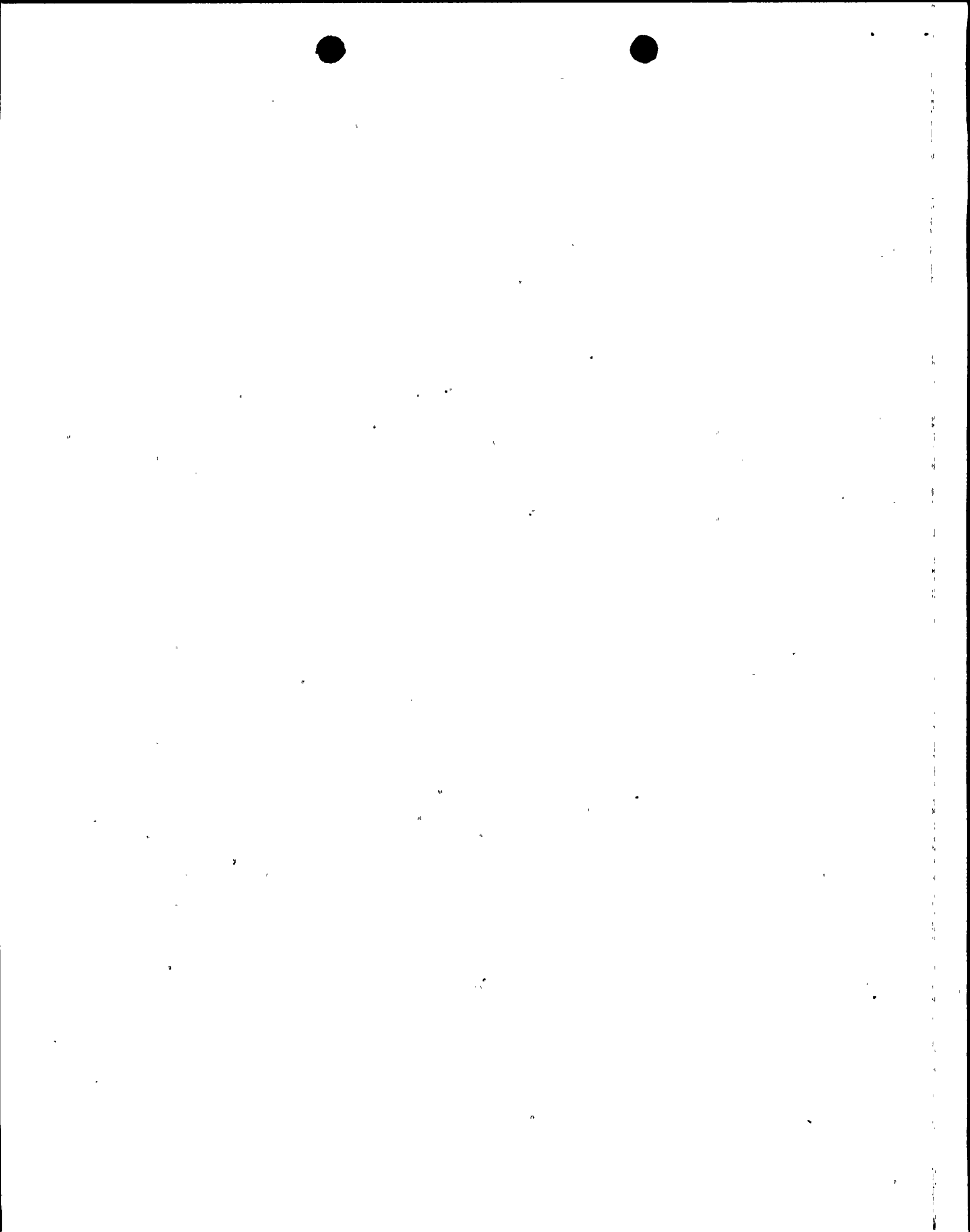
3. That the plan or any portion of it should be released only to qualified experts, and the Intervenor must prove that the expert is qualified to evaluate the section which is to be revealed to him.^{6/}

THE INTERVENOR'S POSITION IN CONTEXT

There is a "catch '22" ring to the Intervenor's repeated attempts to comply with the Order of the Appeal Board: SLOMFP has not been permitted to examine the contents of the security plan because it has not qualified an expert witness for such examination; SLOMFP cannot determine either from PG&E or the NRC the qualifications it is trying to meet in order to qualify an

^{5/} Memorandum and Order, supra, n. 1, at p. 15.

^{6/} Ibid. at p. 17.



expert to review the plan. SLOMFP has requested on numerous occasions, orally and in three specific instances in writing, that the Applicant state the qualifications that it believes are necessary to review the security plan. (copies attached). Applicant has refused to answer any of these requests.

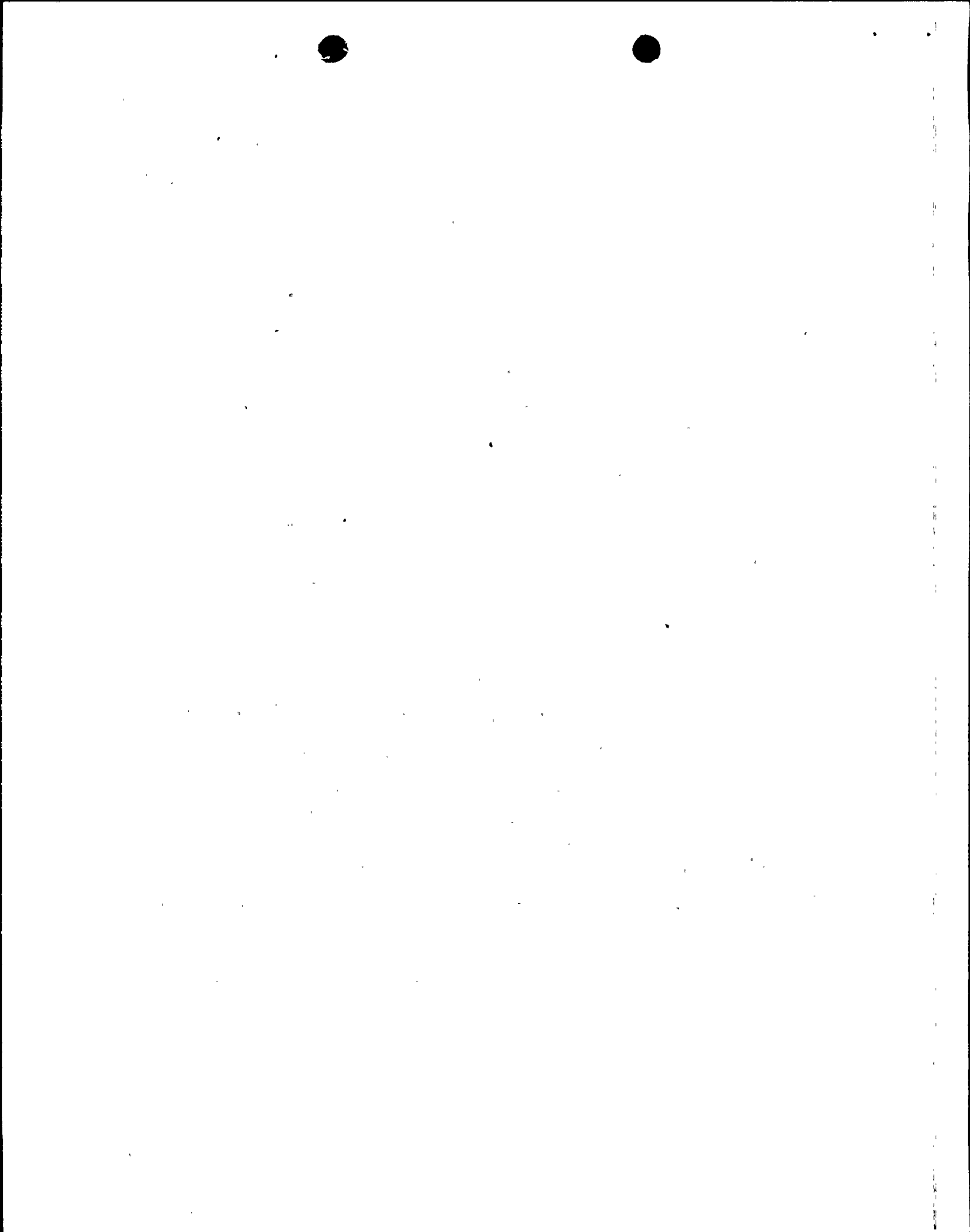
The Applicant's and NRC's continued refusal to state the professional qualifications they believe are necessary to review the security plan, in these circumstances where the Intervenor itself cannot obviously review the plan to make its own determination, puts the Intervenor subject to the arbitrary exercise of discretion subject to judicial review.

"Judicial review must offer aid to insure that the administrative process itself will confine and control the exercise of discretion. Courts should require administrative officers to articulate the standards and principles that govern their discretionary decisions in as much detail as possible . . ." Environmental Defense Fund, Inc. v. Ruckleshaus, (1971) 438 F.2d 584, 598.

QUALIFICATION OF AN EXPERT UNDER THE FEDERAL RULES OF EVIDENCE

A witness may be qualified as an expert to give an opinion on a technical matter if he can demonstrate that he has either the knowledge, the skill, the experience, the training, the education to testify on the subject.^{7/} Application of this

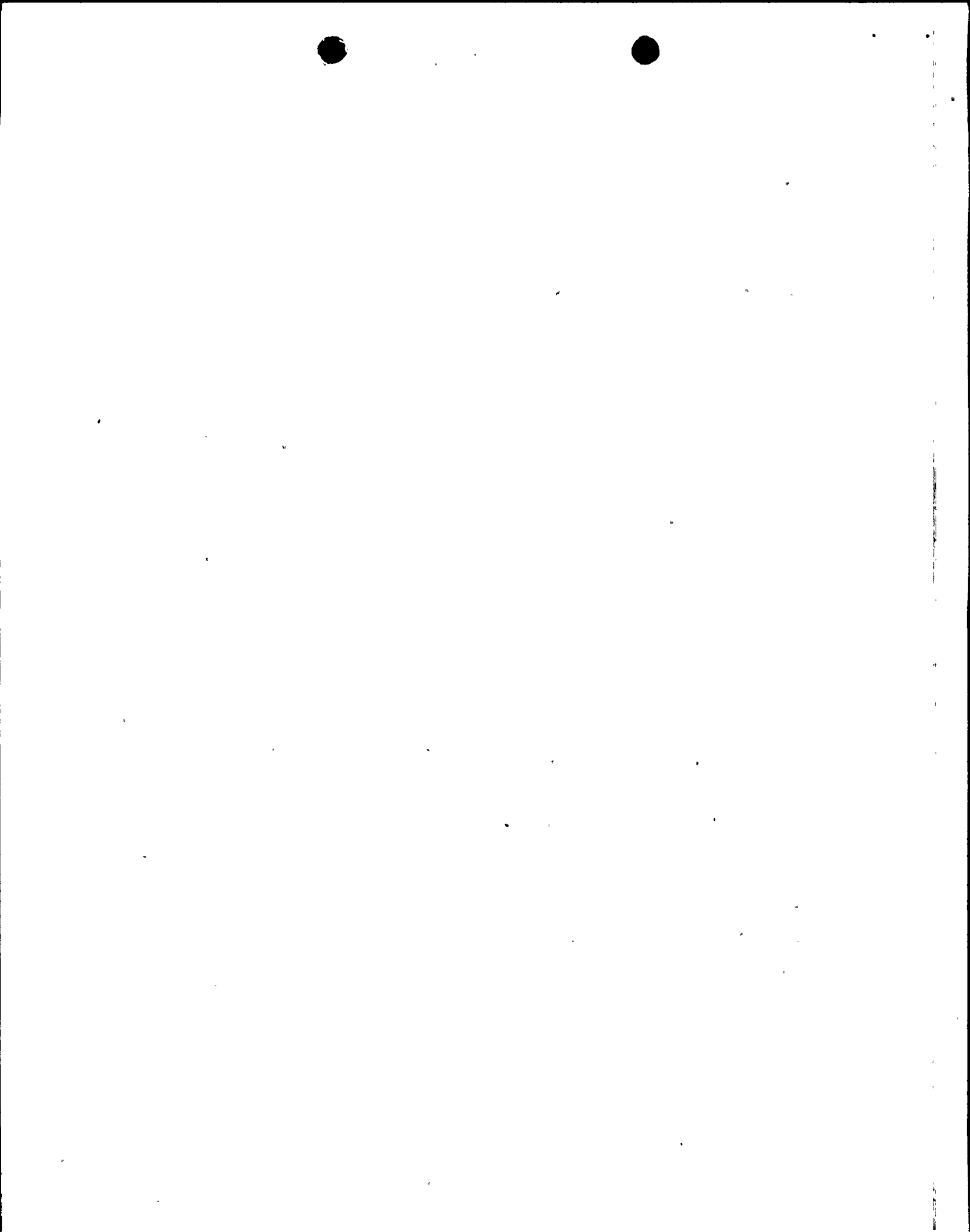
^{7/} Federal Rules of Evidence, Rule 702.



rule in this proceeding would require that Dr. DeNike and Dr. Welch be qualified as expert witnesses if they have either the knowledge, skill, experience, training, or education to be able to comprehend such portions of the Applicant's security plan as would be shown to them for the purpose of giving an opinion as to whether the plan complies with relevant portions of 10 CFR 73.55. The determination here is not as to whether a proposed expert has knowledge of the existing regulations or of any element of the existing security plan, which it would, of course, be impossible for him to have, but which is, nevertheless, suggested in PG&E's objection to the qualification of Dr. Welch.

QUALIFICATION OF DR. DE NIKE

Dr. DeNike's qualifications were initially submitted to this Board in Intervenor's Petition of February 1, 1978. Dr. DeNike is a magna cum laude graduate of Harvard University and holds a doctorate degree in clinical psychology from Duke University. He is a recognized expert on the psychology of human terrorist activities and is well qualified to determine if the Applicant's plan meets the general performance requirements of 10 CFR 73.55 by providing "protection with high assurance



against successful industrial sabotage" from either external or internal threats as enumerated in Section 73.55(a)(1) and (2). Specifically with respect to the Intervenor's Amended Security Contentions, Dr. DeNike is qualified to give an opinion to the following contentions:

1. That Pacific Gas and Electric Company has failed to adequately meet and comply with Federal Nuclear Power Plant Security Regulations to provide protection against sabotage, terrorism, and paramilitary attacks which could result in catastrophic release of radioactivity from the Diablo Canyon nuclear power reactors or spent fuel pools.

2. That Pacific Gas and Electric Company has failed to devise and enforce a security plan which would meet the general performance requirements of Nuclear Regulatory Commission rules as provided in 10 CFR 73.55.

. . .

5. That Pacific Gas & Electric Company has deficiencies in its Diablo Canyon security arrangements in non-compliance with, and in violation of, 10 CFR 73.55 relating to identification and search of individuals entering a protected area, search of packages and other handcarried items for things which could be used for industrial sabotage, identification and authorization of packages, designation, control and search of vehicles, badging



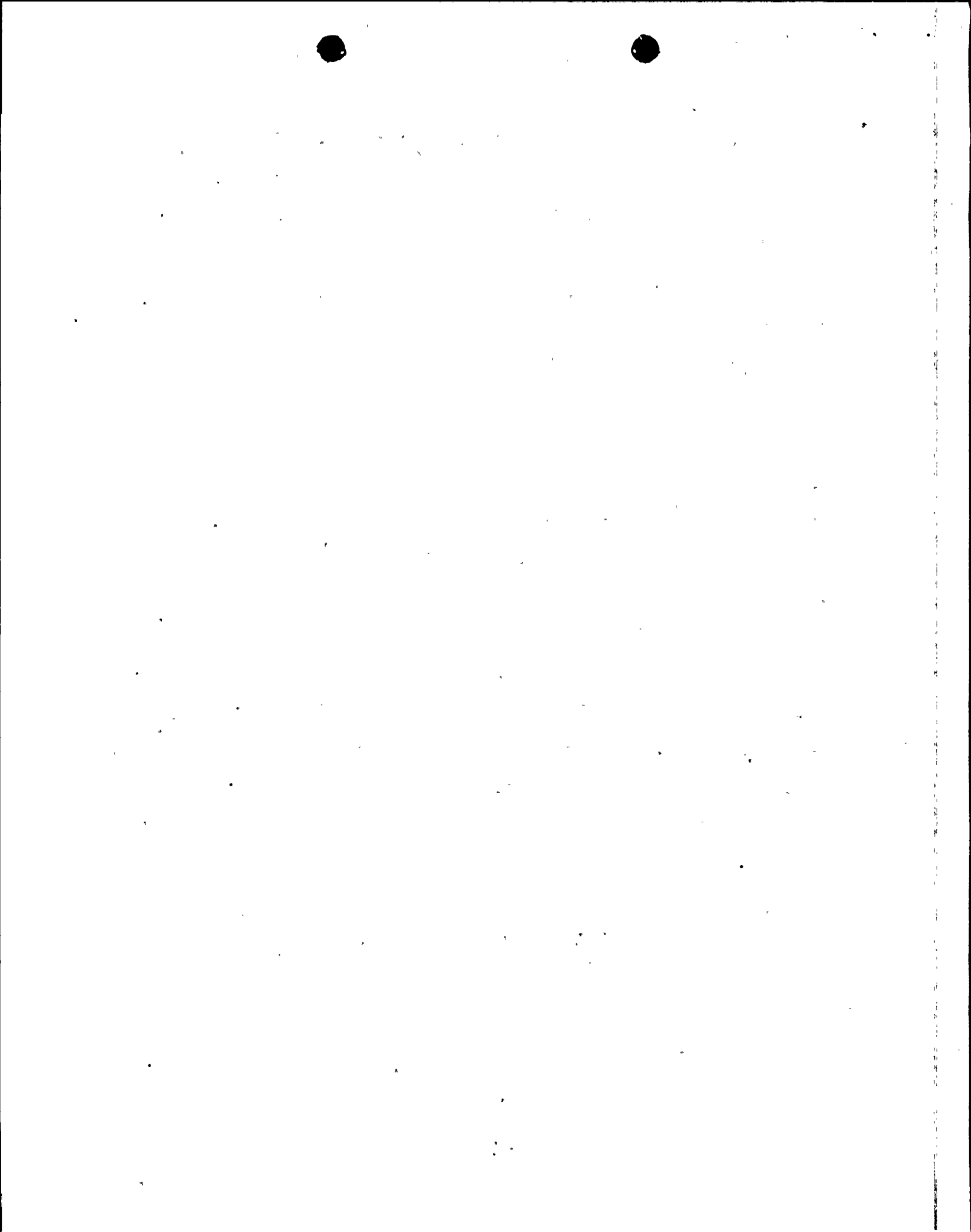
and escort requirements for individuals, access to vital areas, alarms, locks, and positive access control over reactor containment and other equipment in protected and vital areas.

It should be noted that the NRC has recognized to some extent Dr. DeNike's expertise in the security field in asking him to comment on the Petition for Rulemaking regarding "pat down" searches of individuals entering a protected area in a nuclear power plant. On Sept. 16, 1977, Dr. DeNike was asked to comment regarding the proposed "pat down" regulation, and as to the alternatives to such searches, because of concern for the potential affect on employee effectiveness and morale from physical searches. Dr. DeNike was also asked to comment regarding his opinion as to the value of searches as a contributing element of security systems.^{8/}

QUALIFICATIONS OF DR. BRUCE L. WELCH

The qualifications of Dr. Welch were submitted in Intervenor's Petition of February 1, 1978. Dr. Welch is a graduate of Auburn University, and received his Ph.D. from Duke University, and is currently a visiting lecturer in the

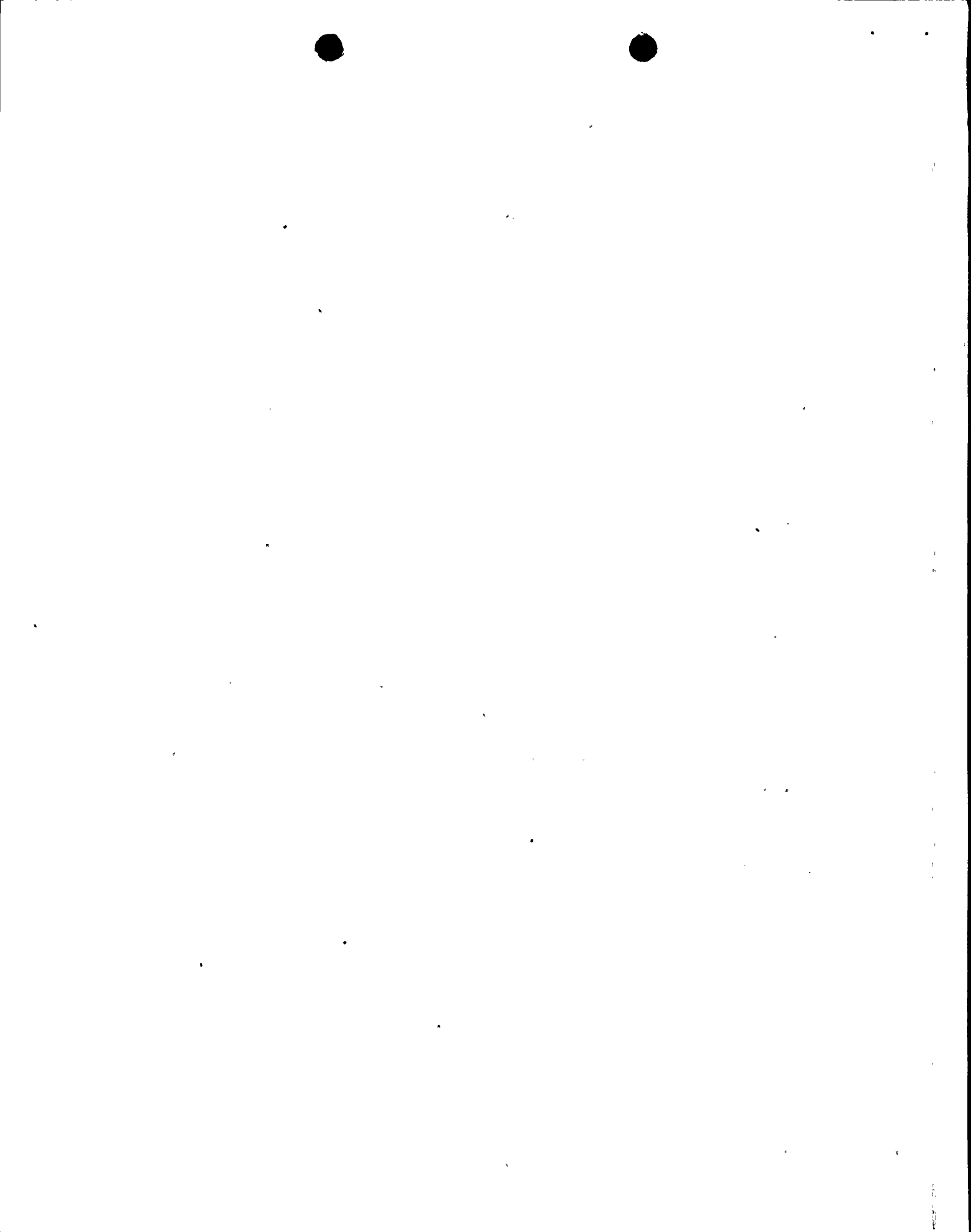
^{8/} Letter Robert B. Minogue, Director of Office Standards Development to Dr. L. Douglas DeNike, September 16, 1977.



Department of Psychiatry at Yale University, School of Medicine, and is President of the Environmental Biomedicine Research Institute at Baltimore, Maryland. There can be no serious doubt that Dr. Welch's professional education would enable him to examine the portions of the Applicant's security plan to determine conformity with the relevant portion of 10 CFR 73.55. In its opposition to Dr. Welch's qualification, the Applicant makes much of his deposition testimony that Dr. Welch does not have current knowledge about existing security systems. SLOMFP submits that is not the test for the determination of competence of an expert witness - - the test is whether he has the education to evaluate the plan in light of existing regulations, which he clearly has. Dr. Welch has examined military security plans for military installations at Quantanimo Naval Base in Cuba, the naval amphibious base harbor facilities in the Norfolk-Portsmouth area, the Italian underwater group operational areas, the British naval facility at Malta.^{9/} Dr. Welch is an expert in underwater demolition techniques, particularly with respect to sneak attack from the sea,^{10/} an issue in this proceeding. He has testified that he "can evaluate very quickly

^{9/} Deposition, Dr. Bruce L. Welch, Washington, D.C., February 24, 1978, p. 13.

^{10/} Ibid. at p. 17.



in context organizational and long range security plans and principles, technologies, very quickly, if that was made available to me."^{11/} Dr. Welch's description of how he would propose to evaluate the security plan is by reviewing, in detail, the floor layout and the engineering plan, the qualification numbers and training of the security staff, a talk with the people who run it, by walking around and speaking to some of the guards who were there without their being warned that he was coming.^{12/} It is precisely the method used by the General Accounting Office in its critical analysis of existing security plans.^{13/} The Applicant argues, on page 4 of its supplemental response, that Dr. Welch has no knowledge of present security systems, but neglects to mention that Dr. Welch testified that he had done some reading in connection with his testimony in 1973 and 1974 before the Joint Committee on Atomic Energy with respect to the extension of the Price-Anderson legislation.^{14/}

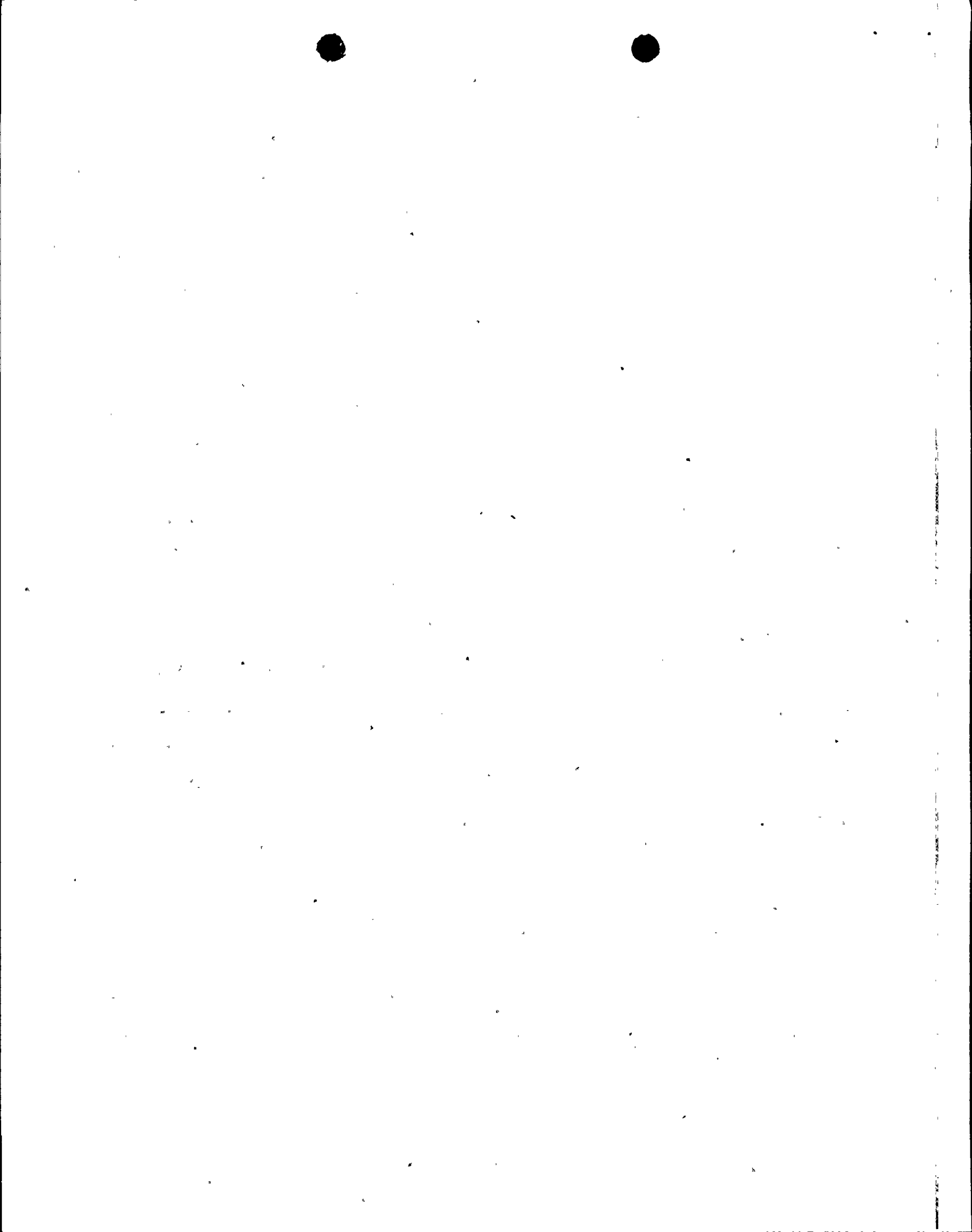
SLOMFP submits that the Applicant's deposition of Dr. Welch was focused more on his present knowledge of the existing

^{11/} Deposition, Dr. Welch, supra, n.9, at p. 20.

^{12/} Ibid. at p. 43.

^{13/} Report to the Congress by the Comptroller General of the United States, Security at Nuclear Power Plants - - At Best Inadequate, April 7, 1977.

^{14/} Deposition, supra, n. 9, at p. 10.



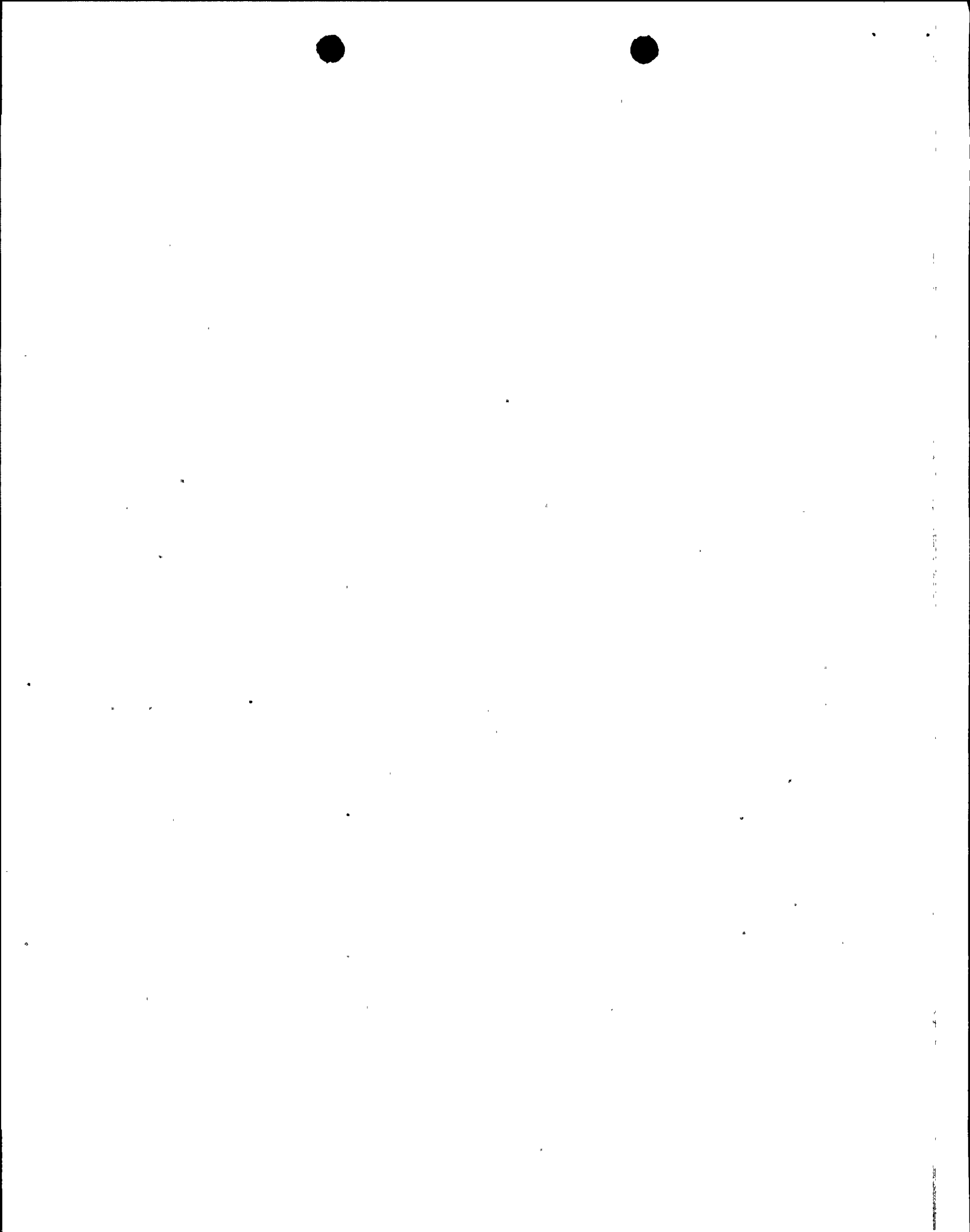
regulations and on the elements of the Applicant's security plan.^{15/} Dr. Welch was examined as if there was uniformity with respect to the establishment of a security system at different atomic power plants. Plants vary as to the use of magnetic alarm systems, infra-red alarm systems, closed circuit television systems, computerized key-card systems to control important doors that monitor records and record the opening and closing of doors and attack-resistant guard houses. One Plant visited by GAO inspectors had such a system, another did not.^{16/}

NRC believes that issuance of the new physical security rules, Section 73.55, in February, 1977, overcame much of the criticism, particularly with respect to the differing commitments and level of details between individual licensees' approved security plans.^{17/} The fact remains that, until Regulation 73.55 is fully implemented in August, 1978, the differing commitments and inconsistencies as to choice of security equipment exists. There is no uniformity with respect to the security systems as was suggested in the examination of Dr. Welch.

^{15/} Deposition, Dr. Bruce L. Welch, supra, n. 9, pp. 54-59.

^{16/} Report to the Congress by the Comptroller General, supra, n. 13, pp. i, ii, 14.

^{17/} Report to the Congress by the Comptroller General, supra, no. 13, (letter from Lee Gossick, Office of Executive Director for Operations, to Thomas McTiernan, Director Office of Inspection and Audit, NRC).



Dr. Welch's expertise in aggressive behavior particularly qualifies him to testify as to the effectiveness of the security plan based on 10 CFR 73.55. The NRC itself is concerned with the potential effects on employee effectiveness and morale of physical "pat down" searches of individuals and other requirements being proposed for physical protection of nuclear reactors as specified in that regulation.^{18/} Dr. Welch would also be able to give his opinion as to the effectiveness of the Applicant's security plan in light of the suspension by the NRC of the physical "pat down" search requirement of licensed employees, initially required in 10 CFR 73.55, effective September 29, 1977.^{19/}

Dr. Welch's present knowledge of the detailed and often revised security regulations and equipment specifications is not the point here. The issue is, if he took the time to study existing regulations and was qualified to examine relevant portions of the Applicant's security plan, does he have either the experience, training or education to comprehend the plan and the regulations and give an opinion as to the adequacy of the plan? SLOMFP submits that Dr. Welch should be qualified with respect to these contentions:

^{18/} Letter Edson G. Case, Acting Director, Office of Nuclear Reactor Regulation, to Pacific Gas and Electric Company, September 19, 1977.

^{19/} 42 Fed. Reg. 189, September 29, 1977, p. 51607.

1. That Pacific Gas and Electric Company has failed to adequately meet and comply with Federal Nuclear Power Plant Security Regulations to provide protection against sabotage, terrorism, and paramilitary attacks which could result in catastrophic release of radioactivity from the Diablo Canyon nuclear power reactors or spent fuel pools.

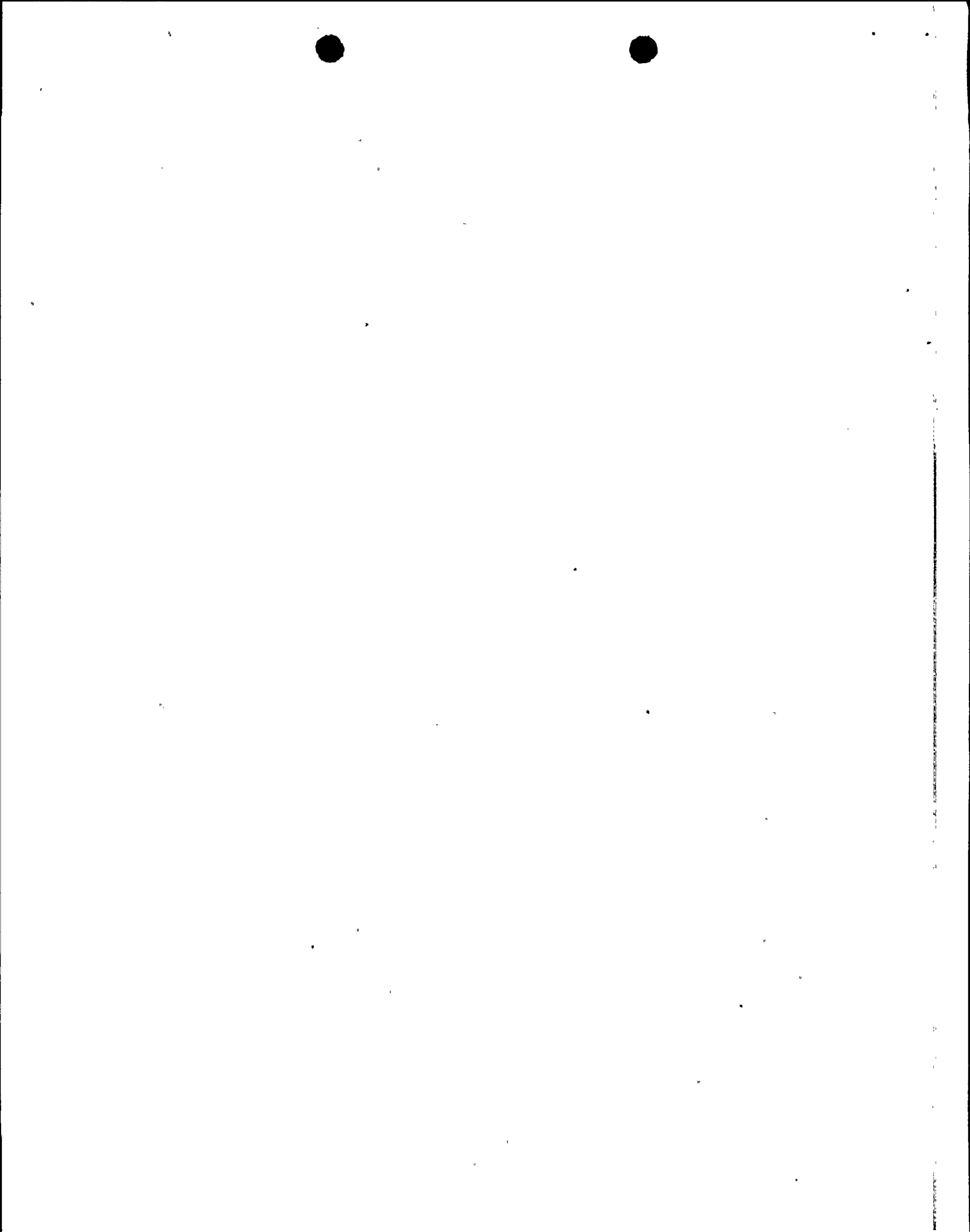
2. That Pacific Gas and Electric Company has failed to devise and enforce a security plan which would meet the general performance requirements of Nuclear Regulatory Commission rules as provided in 10 CFR 73.55.

. . .

9. That Pacific Gas and Electric Company has deficiencies in its Diablo Canyon security arrangements in non-compliance with, and in violation of, 10 CFR 73.55 relative to guard response to abnormal activity and security emergencies.

QUALIFICATIONS OF RICHARD B. HUBBARD

The professional qualifications of Richard B. Hubbard are attached as Exhibit "A". Mr. Hubbard's long years of experience in the fields of application engineering and quality assurance in the nuclear industry qualify him to serve as an expert witness with respect to the more technical aspects of the conformity of the Applicant's plan to 10 CFR 73.55.



Mr. Hubbard has testified as an expert witness with respect to other issues in this proceeding. SLOMFP requests that this Board determine that Mr. Hubbard is qualified to serve as an expert witness with respect to these contentions:

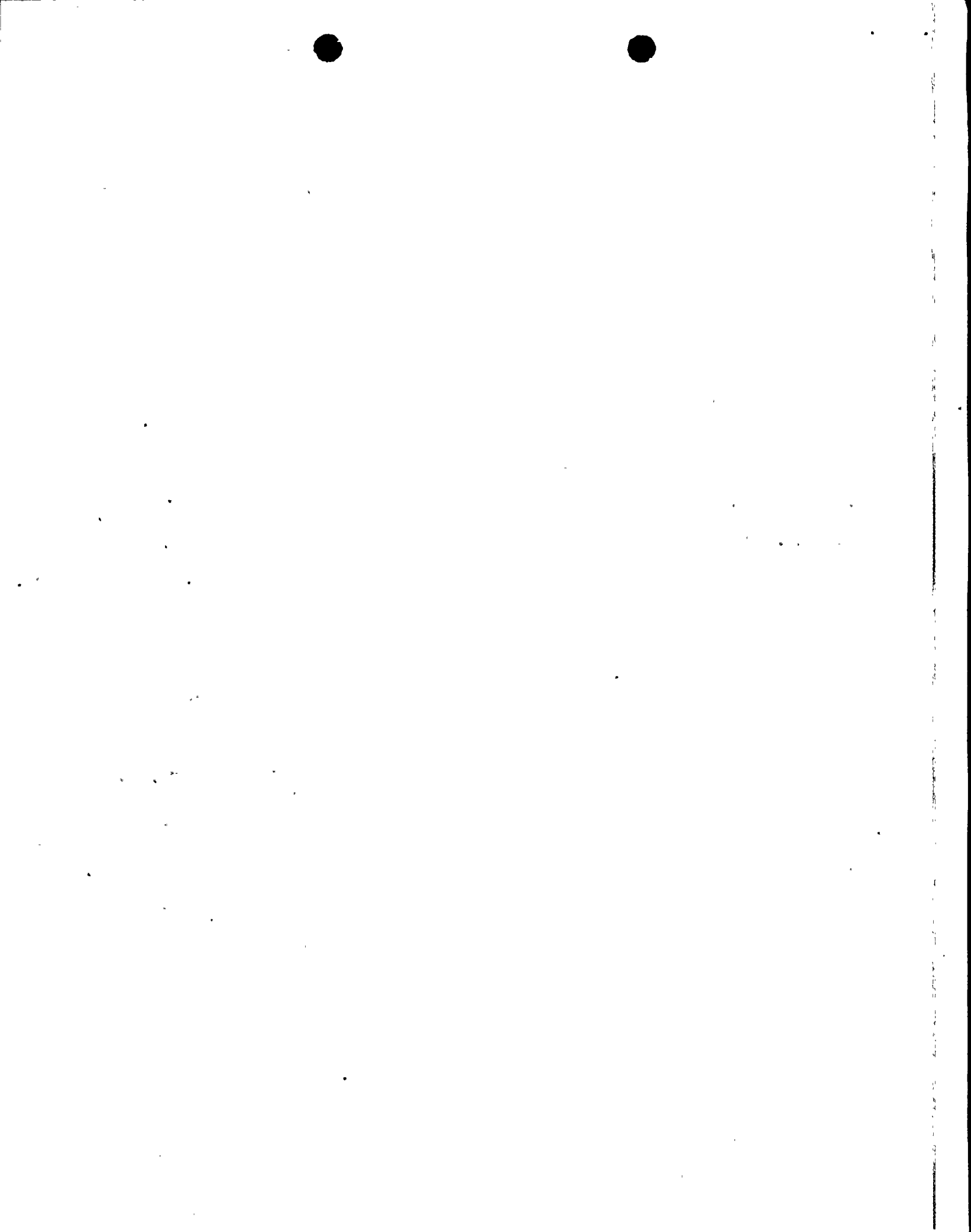
. . .

4. . That Pacific Gas and Electric Company has deficiencies in its Diablo Canyon security arrangements in non-compliance with, and in violation of, 10 CFR 73.55 relative to the location of vital areas, vehicle parking restrictions, size of isolation zones, penetration detection devices and arrangements, and illumination relative to physical barriers.

. . .

6. That Pacific Gas and Electric Company has deficiencies in its Diablo Canyon security arrangements in non-compliance with, and in violation of, 10 CFR 73.55 relative to alarm annunciation, central alarm stations, required features, types and locations of alarms.

7. That Pacific Gas and Electric Company has deficiencies in its Diablo Canyon security arrangements in non-compliance with, and in violation of, 10 CFR 73.55 relative to guard communications capabilities, alarm station communications capabilities, communication links to local law enforcement authorities, and independent power sources for non-portable communications equipment.



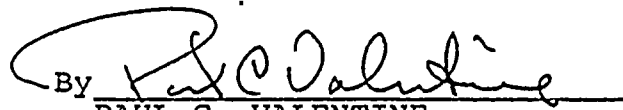
8. That Pacific Gas and Electric Company has deficiencies in its Diablo Canyon security arrangements in non-compliance with, or in violation of, 10 CFR 73.55 relative to testing and maintenance of security equipment.

CONCLUSION

For the reasons stated herein, SLOMFP submits that Dr. L. Douglas DeNike, Dr. Bruce L. Welch, and Richard B. Hubbard be determined to be qualified to serve as expert witnesses to review such portions of the security plan as are relevant to the contentions with respect to which they would be prepared to testify.

DATED: March 31, 1978

Respectfully submitted,

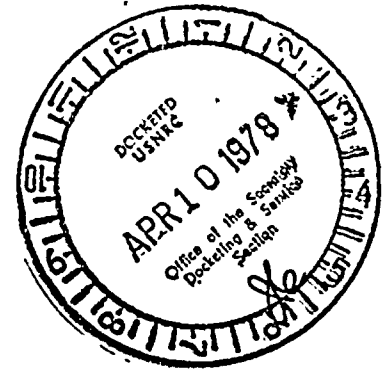
By 
PAUL C. VALENTINE
Attorney for Intervenor
San Luis Obispo Mothers
for Peace

YALE I. JONES
Attorney for Intervenor
San Luis Obispo Mothers
for Peace



RESUME

Richard B. Hubbard
 366 California Avenue
 Suite 7
 Palo Alto, CA 94306
 (415) 329-0474

EXPERIENCE

9/76 - Present

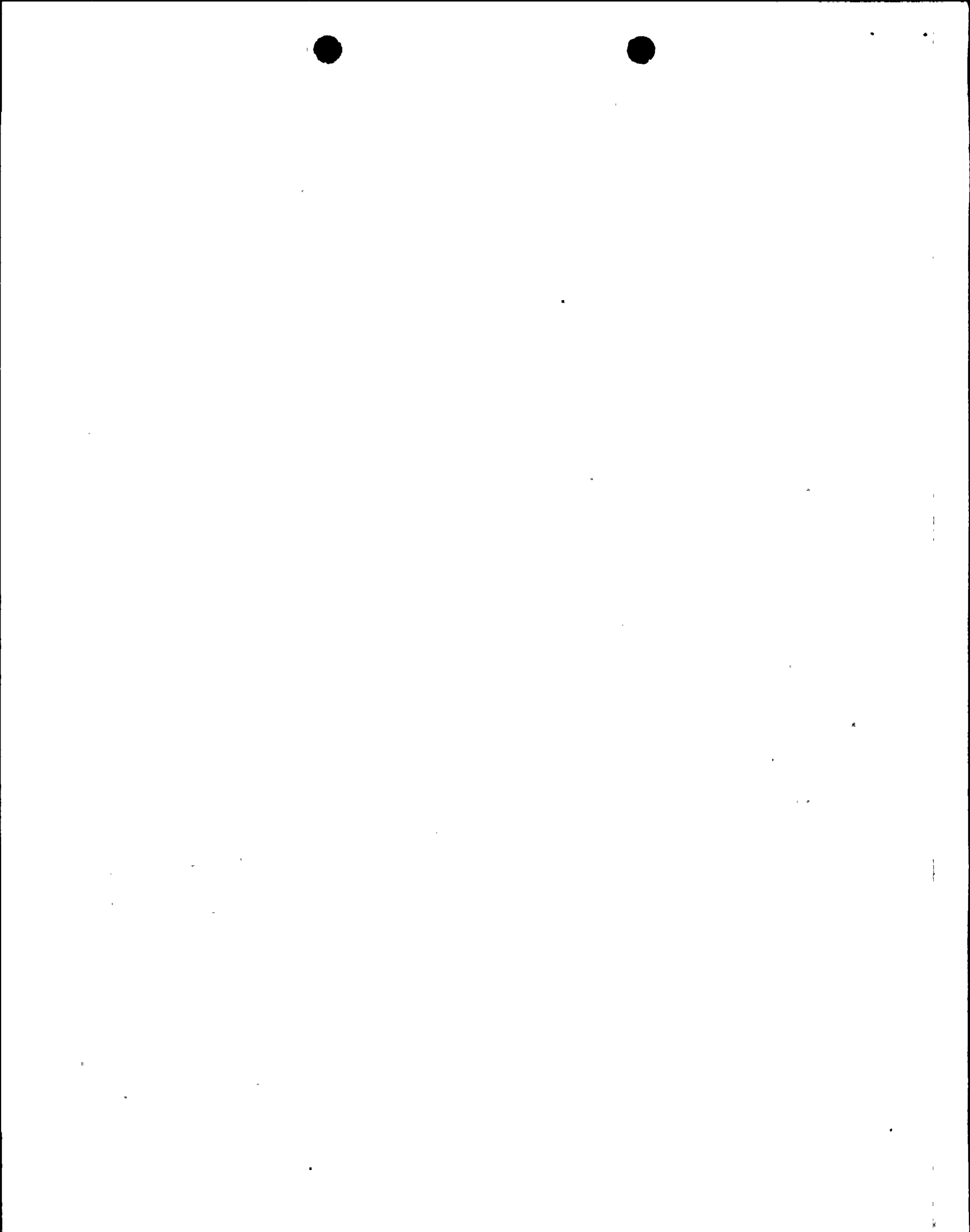
Partner - MHB Technical Associates, Palo Alto, California. Founder and managing partner of technical consulting firm. Specialists in independent energy assessments for government agencies, particularly technical and economic evaluation of nuclear power facilities. Consultant in this capacity to Illinois Attorney General; Suffolk County, New York; Schweinfurt, Germany; Governor of Colorado; and Swedish Energy Commission. Also provided studies and testimony for various public interest groups including Center for Law In The Public Interest, Los Angeles; Public Law Utility Group, Baton Rouge, Louisiana; and Union of Concerned Scientists, Cambridge, Massachusetts. Provided testimony to U.S. Senate/House Joint Committee on Atomic Energy, U.S. House Committee on Interior and Insular Affairs, California Assembly, Land Use, and Energy Committee, Advisory Committee on Reactor Safeguards, and Atomic Safety and Licensing Board. Performed comprehensive risk analysis of the accident probabilities and consequences at the Barsebäck Nuclear Plant for the Swedish Energy Commission and edited, as well as contributed to, the Union of Concerned Scientist's technical review of the NRC's Reactor Safety Study (WASH-1400).

2/76 - 9/76

Consultant, Project Survival, Palo Alto, California. Volunteer work on Nuclear Safeguards Initiative campaigns in California, Oregon, Washington, Arizona, and Colorado. Numerous presentations on nuclear power and alternative energy options to civic, government, and college groups. Also resource person for public service presentations on radio and television.

5/75 - 1/76

Manager - Quality Assurance Section Nuclear Energy Control and Instrumentation Department, General Electric Company, San Jose, California. Report to the Department General Manager. Develop and implement quality plans, programs, methods, and equipment which assure that products produced by the Department meet quality requirements as defined in NRC regulation 10 CFR 50, Appendix B, ASME Boiler and Pressure Vessel Code, customer contracts, and GE Corporate policies and procedures. Product areas include radiation sensors, reactor



vessel internals, fuel handling and servicing tools, nuclear plant control and protection instrumentation systems, and nuclear steam supply and Balance of Plant control room panels. Responsible for approximately 45 exempt personnel, 22 non-exempt personnel, and 129 hourly personnel with an expense budget of nearly 4 million dollars and an equipment investment budget of approximately 1.2 million dollars.

11/71 - 5/75

Manager - Quality Assurance Subsection, Manufacturing Section of Atomic Power Equipment Department, General Electric Company, San Jose, California. Report to the Manager of Manufacturing. Same functional and product responsibilities as in Engagement #1, except at a lower organizational report level. Developed a quality system which received NRC certification in 1975. The system was also successfully surveyed for ASME "N" and "NPT" symbol authorization in 1972 and 1975, plus ASME "U" and "S" symbol authorizations in 1975. Responsible for from 23 to 39 exempt personnel, 7 to 14 non-exempt personnel, and 53 to 97 hourly personnel.

3/70 - 11/71

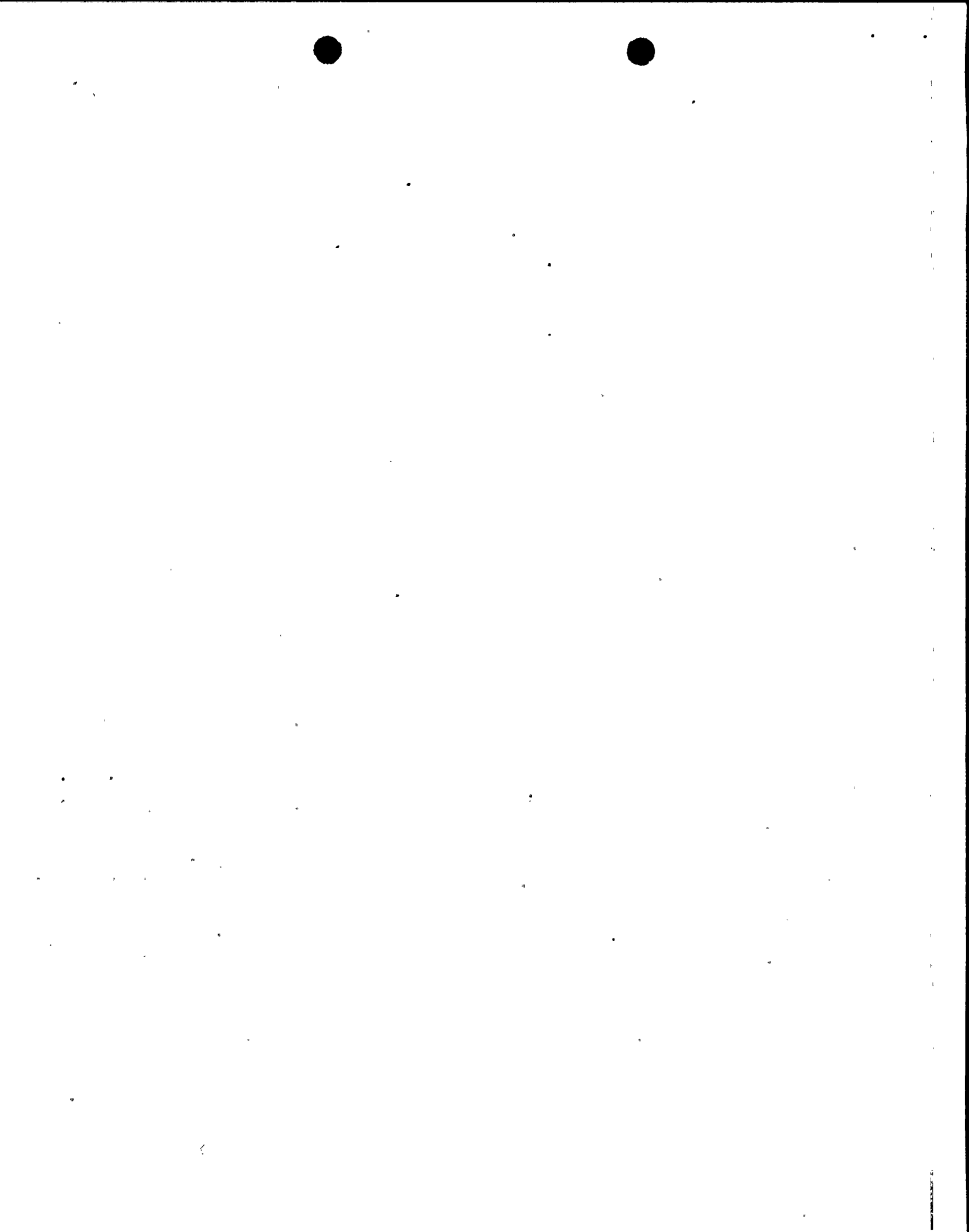
Manager - Application Engineering Subsection, Nuclear Instrumentation Department, General Electric Company, San Jose, California. Responsible for the post order technical interface with architect engineers and power plant owners to define and schedule the instrumentation and control systems for the Nuclear Steam Supply and Balance of Plant portion of nuclear power generating stations. Responsibilities included preparation of the plant instrument list with approximate location, review of interface drawings to define functional design requirements, and release of functional requirements for detailed equipment designs. Personnel supervised included 17 engineers and 5 non-exempt personnel.

12/69 - 3/70

Chairman - Equipment Room Task Force, Nuclear Instrumentation Department, General Electric Company, San Jose, California. Responsible for a special task force reporting to the Department General Manager to define methods to improve the quality and reduce the installation time and cost of nuclear power plant control rooms. Study resulted in the conception of a factory-fabricated control room consisting of signal conditioning and operator control panels mounted on modular floor sections which are completely assembled in the factory and thoroughly tested for proper operation of interacting devices. Personnel supervised include 10 exempt personnel.

12/65 - 12/69

Manager - Proposal Engineering Subsection, Nuclear Instrumentation Department, General Electric Company, San Jose, California. Responsible for the application of instrumentation systems for nuclear power reactors during the proposal and pre-order period. Responsible for technical review of bid specifications, preparation of



technical bid clarifications and exceptions, definition of material list for cost estimating, and the "as sold" review of contracts prior to turnover to Application Engineering. Personnel supervised varied from 2 to 9 engineers.

8/64 - 12/65

Sales Engineer, Nuclear Electronics Business Section of Atomic Power Equipment Department, General Electric Company, San Jose, California. Responsible for the bid review, contract negotiation, and sale of instrumentation systems and components for nuclear power plants, test reactors, and radiation hot cells. Also responsible for industrial sales of radiation sensing systems for measurement of chemical properties, level, and density.

10/61 - 8/64

Application Engineer, Low Voltage Switchgear Department, General Electric Company, Philadelphia, Pennsylvania. Responsible for the application and design of advanced diode and silicon controlled rectifier constant voltage DC power systems and variable voltage dc power systems for industrial applications. Designed, followed manufacturing and personally tested in advanced SCR power supply for product introduction at the Iron and Steel Show. Project Engineer for a dc power system for an aluminum pot line sold to Anaconda beginning at the 161KV switchyard and encompassing all the equipment to convert the power to 700 volts dc at 160,000 amperes.

9/60 - 10/61

GE Rotational Training Program

Four 3-month assignments on the GE Rotational Training Program for college technical graduates as follows:

- a. Installation and Service Eng. - Detroit, Michigan. Installation and startup testing of the world's largest automated hot strip steel mill.
- b. Tester - Industry Control - Roanoke, Virginia. Factory testing of control panels for control of steel, paper, pulp, and utility mills and power plants.
- c. Engineer - Light Military Electronics - Johnson City, New York. Design of ground support equipment for testing the auto pilots on the F-105.
- d. Sales Engineer - Morrison, Illinois. Sale of appliance controls including range timers and refrigerator cold controls.



10-11-1958

10-11-1958

EDUCATION

Bachelor of Science Electrical Engineering, University of Arizona, 1960.

Master of Business Administration, University of Santa Clara, 1969.

PROFESSIONAL AFFILIATION

Registered Quality Engineer, License No. QU805, State of California.

Member of Subcommittee 8 of the Nuclear Power Engineering Committee of the IEEE Power Engineering Society responsible for the preparation and revision of the following 4 national Q.A. Standards:

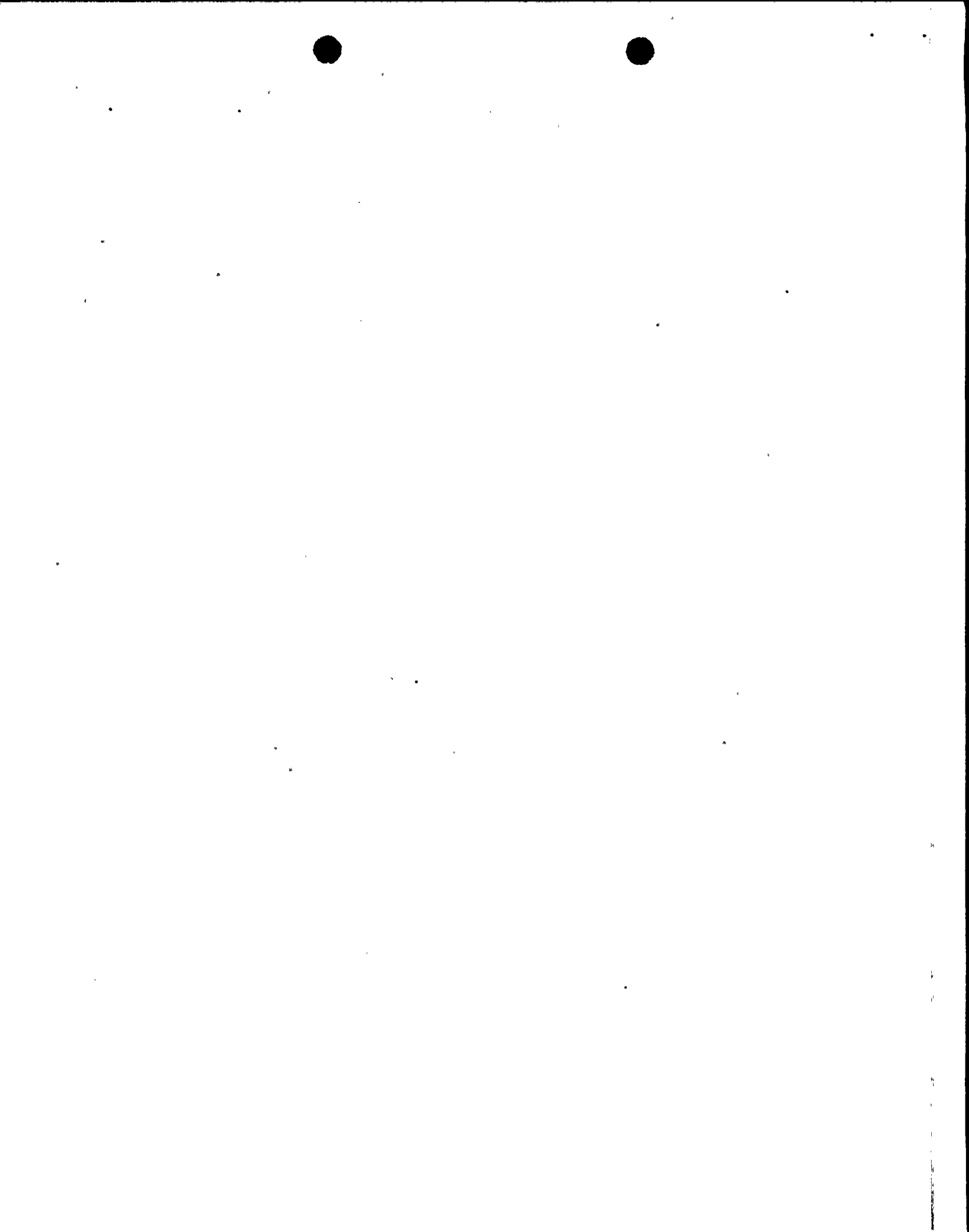
- a. IEEE 498 (ANSI N45.2.16), Supplementary Requirements for the Calibration and Control of Measuring and Test Equipment used in the construction and maintenance of Nuclear Power Generating Stations.
- b. IEEE 336 (ANSI N45.2.4), Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment during the construction of Nuclear Power Generating Stations.
- c. IEEE P467 (ANSI N45.2.14), Quality Assurance Program Requirements for the Design and Manufacture of Class IE Instrumentation and Electric Equipment for Nuclear Power Generating Stations.
- d. IEEE Draft, Requirements for the Procurement and Storage of Class IE Equipment Replacement Parts.

PERSONAL DATA

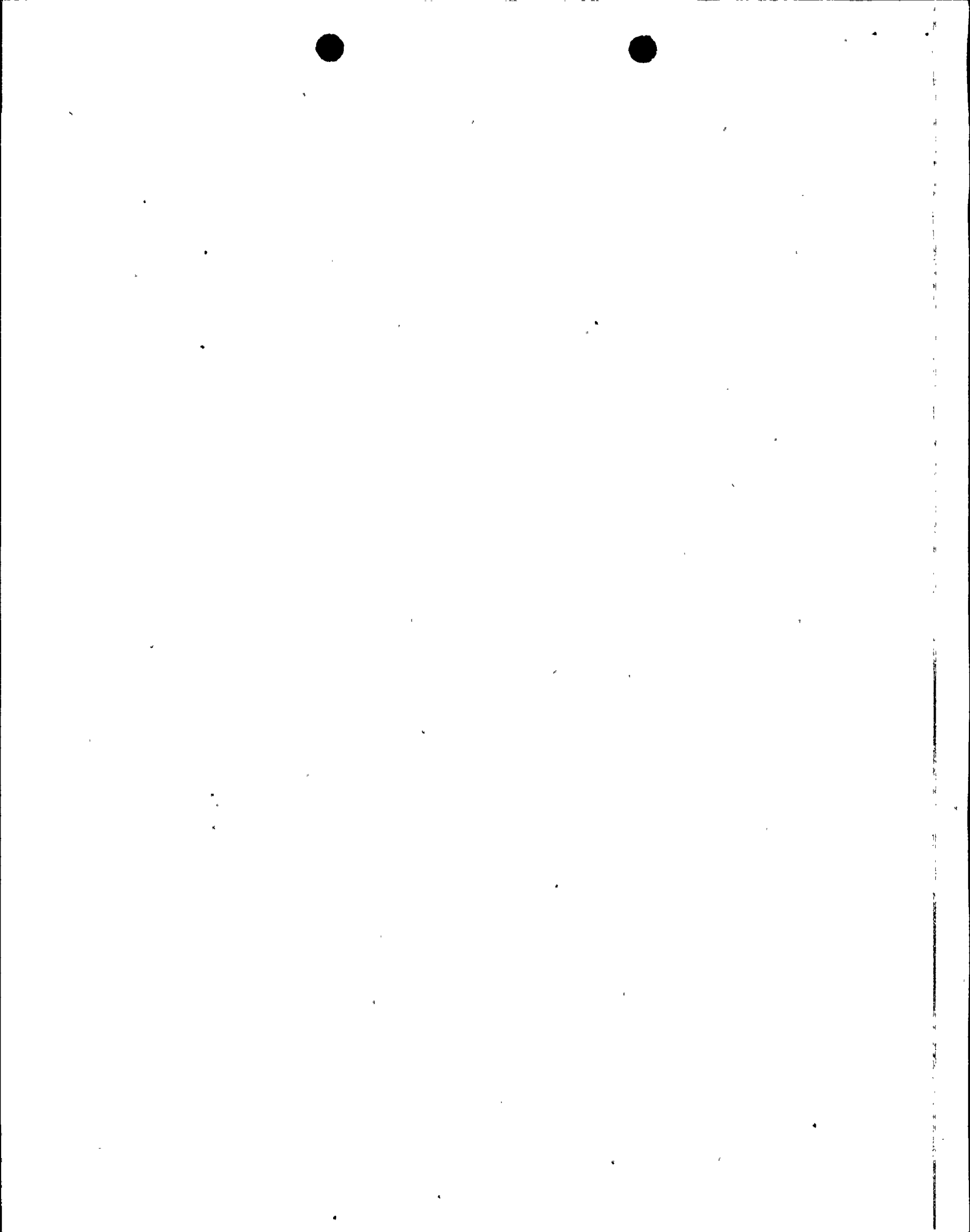
Birth Date: 7/08/37
Married; three children
Health: Excellent

PUBLICATIONS AND TESTIMONY

1. Swedish Reactor Safety Study: Barsebäck Risk Assessment, MHB Technical Associates, January 1978 (Published by Swedish Department of Industry as Document DSI 1978:1).
2. The Risks of Nuclear Power Reactors: A Review of the NRC Reactor Safety Study WASH-1400, Kendall, et al, edited by R. B. Hubbard and G. C. Minor for Union of Concerned Scientists, August 1977.



3. Testimony of R. B. Hubbard to Advisory Committee on Reactor Safeguards, August 12, 1977, Washington, DC, entitled, Risk Uncertainty Due to Deficiencies in Diablo Canyon Quality Assurance Program and Failure to Implement Current NRC Practices.
4. Testimony R. B. Hubbard to United States House of Representatives, Subcommittee on Energy and the Environment, June 30, 1977, Washington, DC, entitled, Effectiveness of NRC Regulations - Modifications to Diablo Canyon Nuclear Units.
5. Testimony of R. B. Hubbard and G. C. Minor, Judicial Hearings Regarding Grafenrheinfeld Nuclear Plant, March 16 & 17, 1977, Wurzburg, Germany.
6. Testimony of R. B. Hubbard and G. C. Minor before California State Senate Committee on Public Utilities, Transit, and Energy, Sacramento, California, March 23, 1976.
7. Testimony of R. B. Hubbard, D. G. Bridenbaugh, and G. C. Minor to the California State Assembly Committee on Resources, Land Use, and Energy, Sacramento, California, March 8, 1976.
8. Testimony of R. B. Hubbard, D. G. Bridenbaugh, and G. C. Minor before the United States Congress, Joint Committee on Atomic Energy, February 18, 1976, Washington, DC. (Published by Union of Concerned Scientists, Cambridge, Massachusetts.) Excerpts from testimony published in Quote Without Comment, Chemtech, May, 1976.
9. Quality Assurance: Providing It, Proving It, R. B. Hubbard, Power, May, 1972.
10. In-Core System Provides Continuous Flux Map of Reactor Cores, R. B. Hubbard and C. E. Foreman, Power, November, 1967.



RELATED CORRESPONDENCE

June 29, 1977



Philip A. Crane, Jr., Esq.
Pacific Gas & Electric Co.
Room 3127
77 Beale Street
San Francisco, California 94106

RE: Diablo Canyon

Dear Phil:

I hope that you received the message from my office that I am involved in the Sundesert NOI and will be out of the office almost continually for the next few weeks.

I am planning on the meeting in your office on July 8 with Jim Tourtellotte. If there is a hitch in the schedule, I would appreciate your letting my secretary, Helen, know that. What time is the meeting?

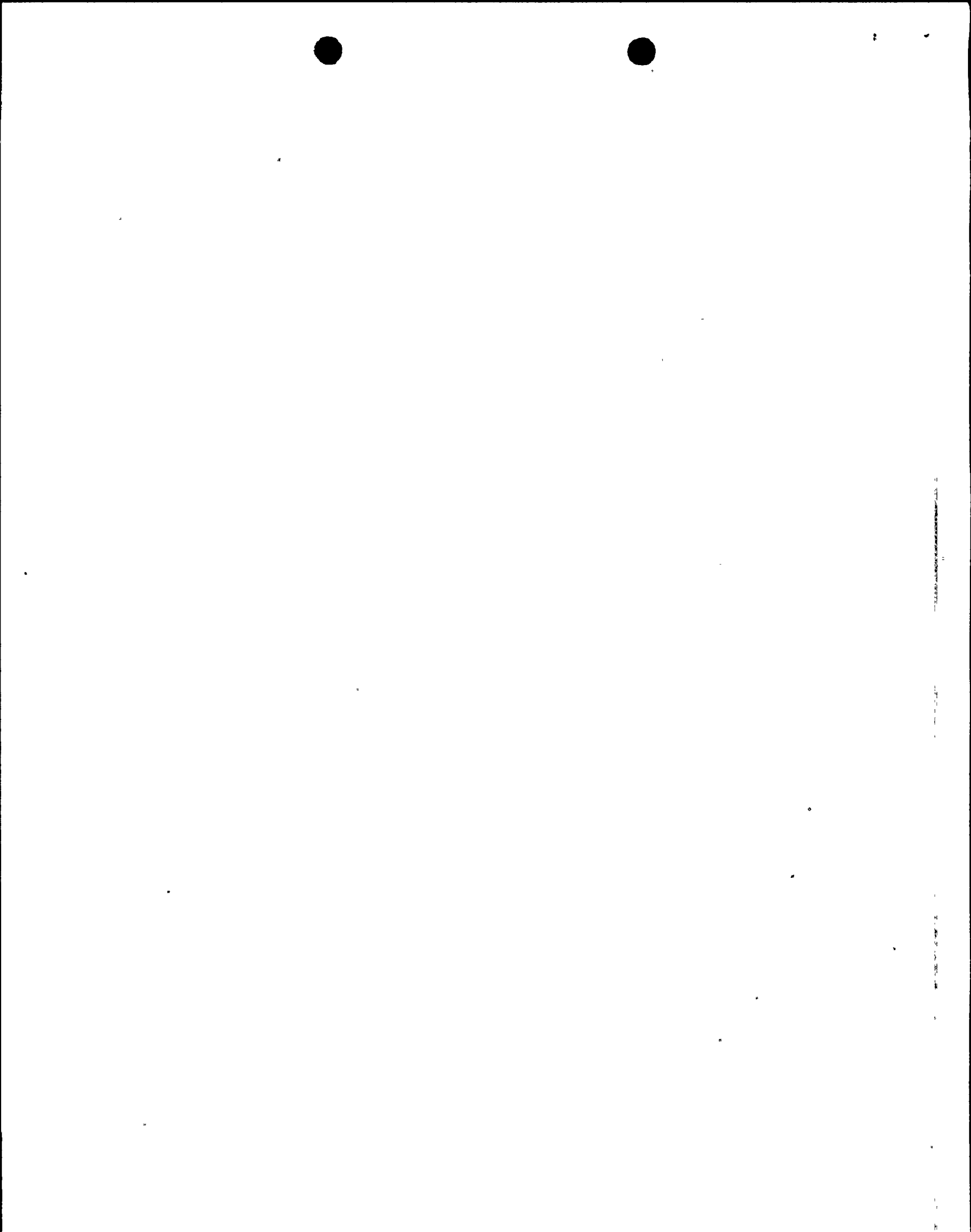
In preparation for that meeting, I would appreciate it if you would, please, furnish me with a specification of professional qualifications which you believe would be necessary to qualify an expert to review the security plan under the recent Appeal Board decision. I have asked for this twice before and hope that three times is out.

Very truly yours,

PAUL C. VALENTINE

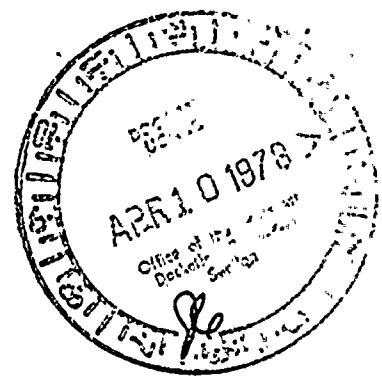
PCV/hd

CC: J. Tourtellotte



RELATED CORRESPONDENCE

April 25, 1977



Philip A. Crane, Jr., Esq.
Pacific Gas & Electric Company
77 Beale Street, Rm 3127
San Francisco, California 94106

Re: Diablo Canyon

Dear Phil:

Some time ago I asked you to provide me with PG&E's criteria for the qualification of the expert for the purposes of reviewing the adequacy of the security plan.

I would appreciate a response to that request immediately.

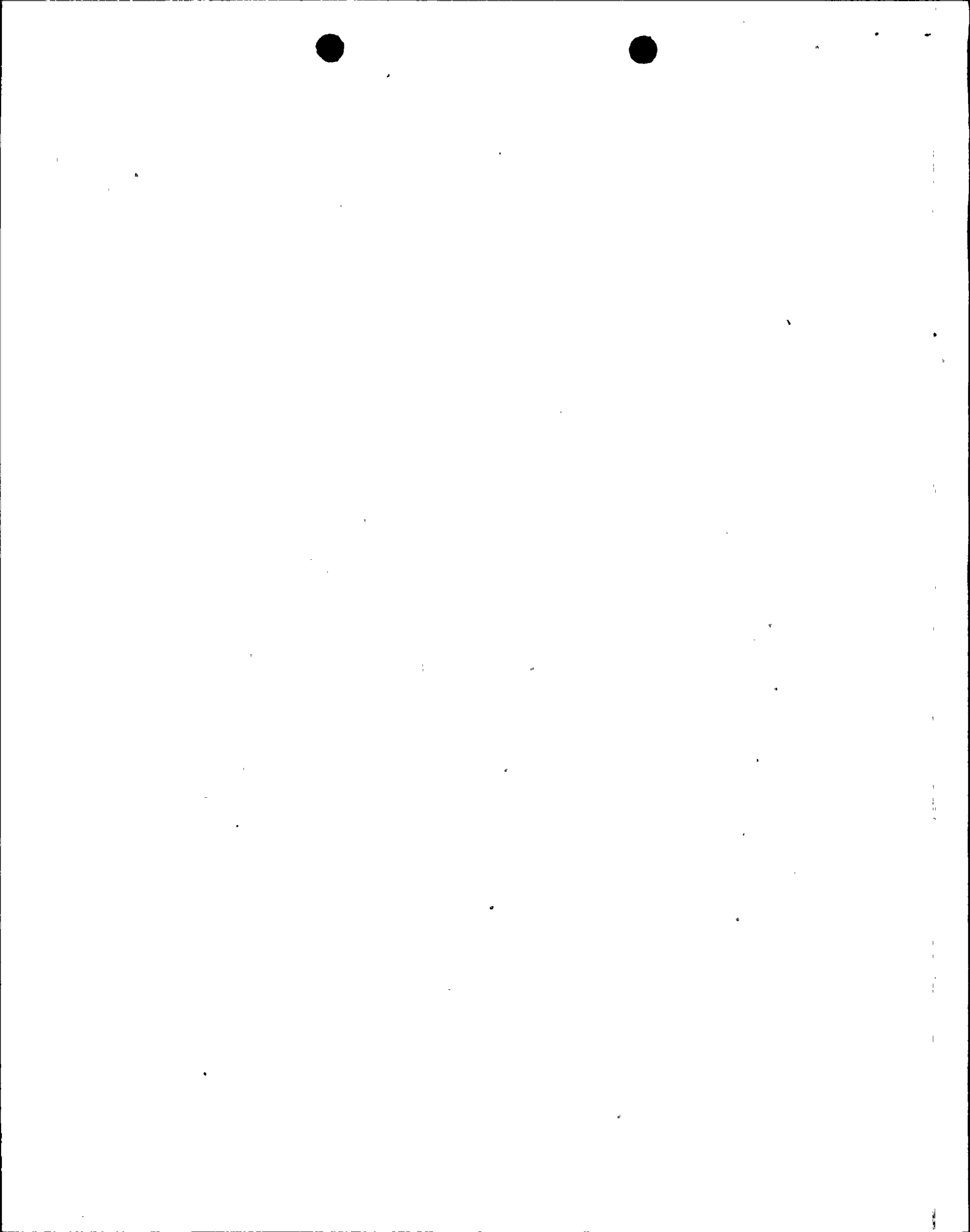
Thank you.

Very truly yours,

PAUL C. VALENTINE

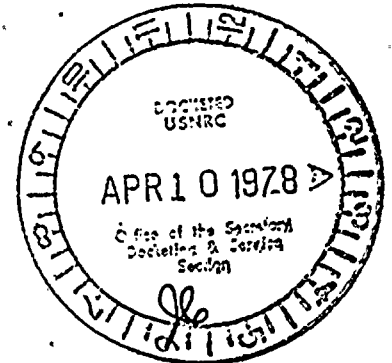
PCV/hd

CC: Thomas F. Englehardt, Esq.



RELATED CORRESPONDENCE

March 24, 1977



Philip A. Crane, Jr., Esq.
Pacific Gas and Electric Company
77 Beale Street
San Francisco, California 94106

Re: Diablo Canyon
Security Plan

Dear Phil:

Yes, I am aware of the new NRC regulations. I have been reviewing them and thought that there would be a new security plan in the works.

I agree that it would not be necessary for us to review a sanitized version of the old plan, however, in accord with my earlier request, I still would like to know the professional disciplines that PG&E considers necessary to qualify an expert for review of the security plan. I would like to have that information as soon as possible.

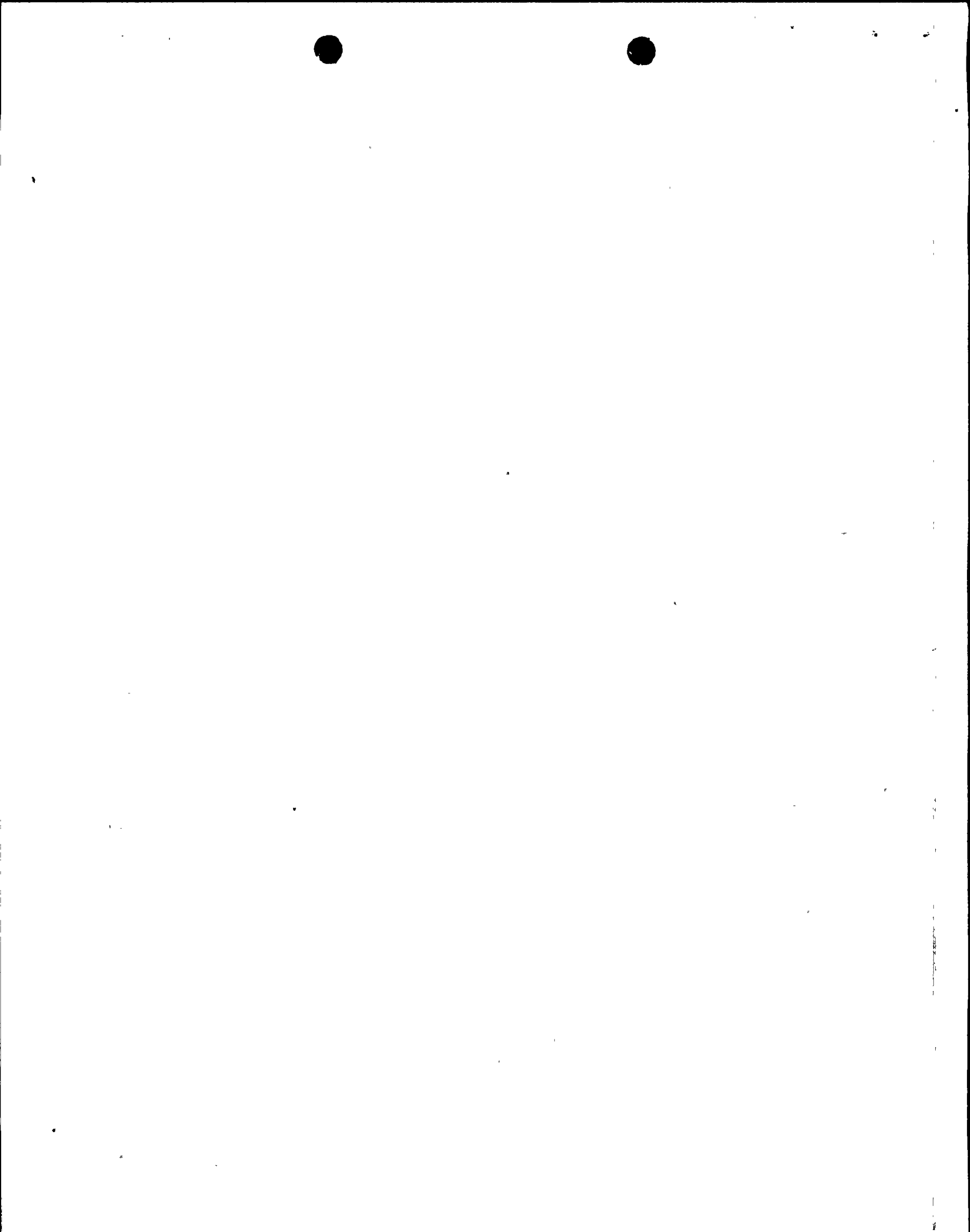
It also seems to me that, since a new plan is being prepared, the urgency that had earlier been expressed in attempting to resolve this matter has been alleviated somewhat and that we should so indicate to the Appeal Board. I continue to believe that a decision on the case that has been submitted to them will provide the best guideline for the review of the new plan.

I am enclosing a copy of my letter along these lines to Tom Engelhardt.

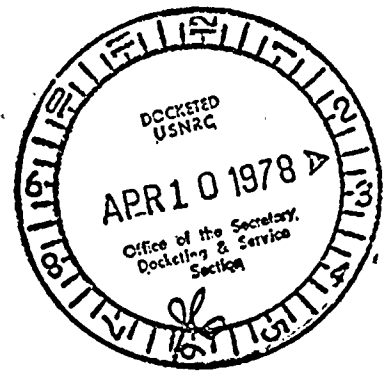
Very truly yours,

PAUL C. VALENTINE

PCV/hd
Enc



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION



Before the Atomic Safety and Licensing Board

In the Matter of)
)
PACIFIC GAS and ELECTRIC COMPANY)
)
(Diablo Canyon Nuclear Power Plant,)
Units 1 and 2)

Docket Nos. 50-275 O.L.
50-323-O.L.

CERTIFICATE OF SERVICE

I hereby certify that copies of INTERVENOR'S RESPONSE TO PACIFIC GAS AND ELECTRIC COMPANY'S RESPONSE AND SUPPLEMENTAL RESPONSE TO INTERVENOR'S PETITION TO ESTABLISH THE QUALIFICATIONS OF SECURITY EXPERT FOR DISCOVERY, dated March 31, 1978, have been served on the following by deposit in the United States mail, first class, postage prepaid, this 31st day of March, 1978.

Elizabeth S. Bowers
Chairman, Atomic Safety and
Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mrs. Raye Fleming
1746 Chorro St.
San Luis Obispo, CA 93401

Mr. Glenn O. Bright
Atomic Safety and Licensing Board
Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

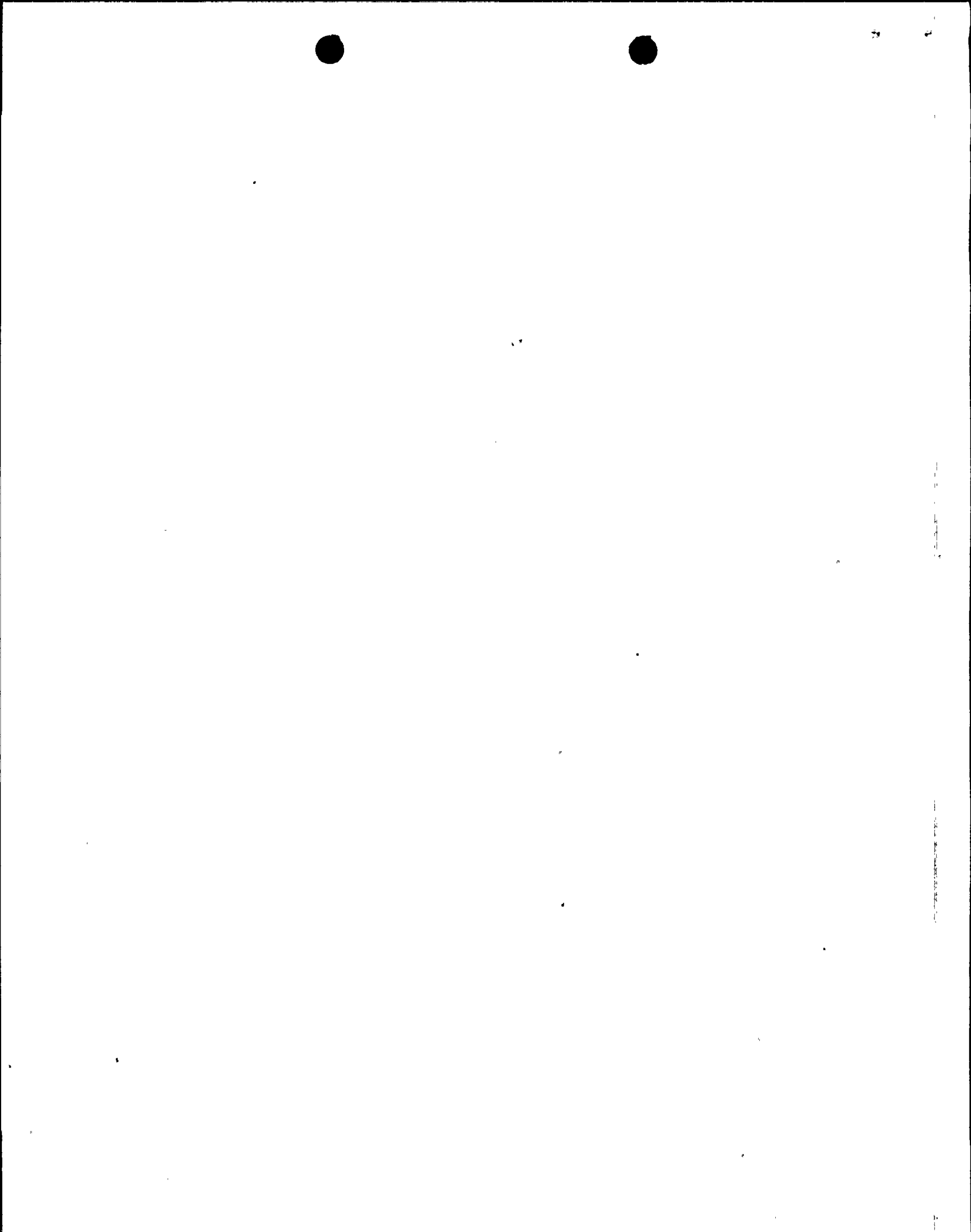
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Battelle Memorial Institute
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Mr. Frederick Eissler
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U.S. Nuclear Regulatory Commission
Washington, D.C.

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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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Helen J. Donovan

