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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION OCT -4 P4:28

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

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.

JOINT INTERVENORS' FOURTH SUPPLEMENTAL  
RESPONSE TO PGandE'S FIRST SET OF INTERROGATORIES

RESPONSE TO INTERROGATORY NO. 2:

The Joint Intervenors now intend to call as an expert witness at the reopened hearings on design quality assurance Dr. F.J. Samaniego, Associate Professor, Department of Statistics, University of California, Davis. A copy of his resume is attached. He will testify regarding the applicability of statistics to verification of design generally and to the Diablo Canyon design specifically. He has testified previously in the Shoreman licensing proceeding in December 1982 through early 1983. The documents upon which he will rely include, but are not necessarily limited to, the IDVP Program Management

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Plans for Phases I and II, the IDVP Final Report, certain of the ITR's issued by the IDVP, and the general statistical literature.

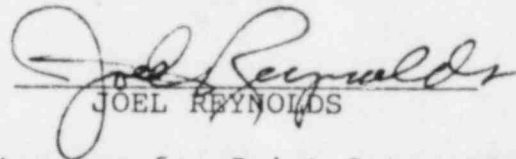
DATED: October 3, 1983

Respectfully submitted,

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| <u>Education:</u>                | <u>Degree</u> | <u>Field</u> | <u>Year</u> |
|----------------------------------|---------------|--------------|-------------|
| Loyola University of Los Angeles | BS            | Mathematics  | 1966        |
| Ohio State University            | MS            | Math./Stat.  | 1967        |
| U.C.L.A.                         | Ph.D.         | Math./Stat.  | 1971        |

Research Interests:

Mathematical Statistics, Reliability and Survival Analysis, Applications of Statistics in Engineering and Public Health.

Employment:

|           |  |
|-----------|--|
| 1982-1983 | Visiting Associate Professor, Department of Biostatistics, University of Washington, Seattle, Washington |
| 1979-1982 | Associate Professor, Intercollege Division of Statistics, University of California, Davis                |
| 1978-1979 | Acting Associate Dean, Intercollege Division of Statistics, University of California, Davis              |
| 1977-1979 | Associate Professor, Department of Mathematics, University of California, Davis                          |
| 1972-1977 | Assistant Professor, Department of Mathematics, University of California, Davis                          |
| 1971-1972 | Post Doctoral Fellow, Department of Statistics, Florida State University                                 |

Professional Activities and Awards:

Member, American Statistical Association, 1970-present  
Member, Institute of Mathematical Statistics, 1971-present  
Member, ASA Committee on Minorities in Statistics, 1976-1980  
Fellow, American Statistical Association, 1982-  
Principal Investigator, Air Force Office of Scientific Research, Contract AFOSR-773180, "Modeling and Inference for Signal Plus Noise Data," 1977-1981.  
Associate Editor, Journal of the American Statistical Association, 1978-present.  
Assistant Program Secretary, IMS Western Regional Meeting, Davis, CA, June 1980.  
Associate Program Secretary, Institute of Mathematical Statistics, 1981-.  
Senior Postdoctoral Fellowship, awarded by the National Research Council of the National Academy of Sciences under the sponsorship of the Ford Foundation, 1982-83.

Publications:

- [1] "Estimating a Binomial Parameter with Finite Memory," IEEE Transactions on Information Theory, Vol. IT-19, September 1973, 636-43.
- [2] "On Tests with Finite Memory in Finite Time," IEEE Transactions on Information Theory, Vol. IT-20, May 1974, 387-388.
- [3] "On testing Simple Hypotheses in Finite Time with Hellman-Cover Automata," IEEE Transactions on Information Theory, IT-21, March 1975, 157-162.
- [4] "On T-minimax Estimation," The American Statistician, 29 (1975), 168-9.
- [5] "A Comment on Admissibility and Completeness," The American Statistician (Letter), 29 (1975), 173.
- [6] "A Characterization of Convoluted Poisson Distributions with Applications to Estimation", Journal of the American Statistical Association, 71 (1976), 475-479.
- [7] "Optimal Sampling Design for Estimating the Integral of a Process with Stationary Independent Increments," IEEE Transactions on Information Theory, Vol. IT-21, May 1976, 173.
- [8] "Mode Identification with Finite Statistics," IEEE Transactions on Information Theory, Vol. IT-22, September 1976, 588-590.
- [9] "Covariance Analysis in the Evaluation of an Enrichment Program," Journal of Educational Statistics, 2, Summer 1977, 121-137 (with S. T. Rickard).
- [10] "Posterior Distribution of the Parameters of the Pearson Type III Distribution: An Application to Design Flood Series Analysis," Proceedings of the International Symposium on Risk and Reliability in Water Resources, (1977), (with B. Espildora and J. Amorocho).

- [11] "Estimating Value in a Uniform Auction," Naval Research Logistics Quarterly, 25 (1978), 621-632 (with L. D. Kaiser).
- [12] "On the Power of the  $\chi^2$  Goodness of Fit Test at Signal Plus Noise Alternatives," Communications in Statistics, B, 8 (1979), 75-90 (with L. D. Kaiser).
- [13] "Two Characterizations of Pascal Signals in Additive Noise," Sankhya, Series A, 41, (1979), 219-231 (with G. Gong).
- [14] "Maximum Likelihood Estimation for Binomially Distributed Signals in Discrete Noise," Journal of the American Statistical Association, 75 (1980), 117-121.
- [15] "Performance of Activated Sludge Processes and Reliability Based Design," Journal of the Water Pollution Control Federation, March 1980, 2841-57 (with S. Niku and E. D. Schroeder).
- [16] "Discharge Standards Based on the Geometric Mean," Journal of the Water Pollution Control Federation, April 1981 (with S. Niku and E. D. Schroeder).
- [17] "Performance of Activated Sludge Processes: Reliability, Stability and Variability," Research and Development Reports of the Environmental Protection Agency, EPA-600/52-81-227, (Dec. 1981) 1-11 (with S. Niku, E.D. Schroeder and G. Tchobanoglous).
- [18] "Maximum Likelihood Estimation for a Class of Multinomial Distributions Arising in Reliability," Journal of the Royal Statistical Society, B, 43 (1981), 45-52 (with L. E. Jones).
- [19] "Pseudo Maximum Likelihood Estimation: Theory and Applications," Annals of Statistics, (1981), 9, 861-69 (with G. Gong).
- [20] "Moment Identities for Nonnegative Variables Via Integrated Survival Curves," IEEE Transactions on Reliability, to appear.

- [21] "Evaluating Performance in Continuous Experiments with Feedback to Subjects," Psychometrika, to appear (with J. Utts).
- [22] "Estimating the Sib Proportion in Seed Purity Determinations," Biometrics, to appear (with P. Arus).
- [23] "On Characterizing Discrete Signals in Additive Noise--A Unified Treatment," submitted for publication, (with R. Boyles). TR #15.
- [24] "Modeling and Inference for Positively Dependent Variables in Dichotomous Experiments," submitted for publication (with R. Boyles). TR #19.
- [25] "Maximum likelihood Estimation for Discrete Shock Model," submitted for publication, (with R. Boyles). TR #21.
- [26] "Estimating a Survival Curve when New is Better than Used," submitted for publication, (with R. Boyles). TR #22.
- [27] "Estimating a Survival Curve Based on Nomination Sampling," in preparation (with R. Boyles).



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(Diablo Canyon Nuclear Power )  
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I hereby certify that on this 3rd day of October, 1983, I have served copies of the foregoing JOINT INTERVENORS' FOURTH SUPPLEMENTAL RESPONSE TO PGandE's FIRST SET OF INTERROGATORIES, mailing them through the U.S. mails, first class, postage prepaid.

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