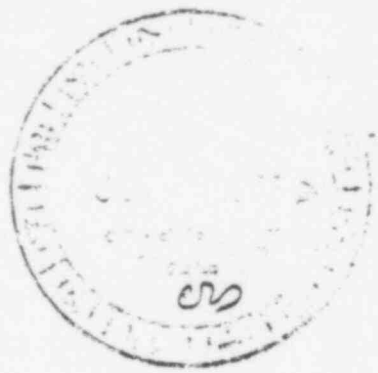
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In The Matter Of	)	
	)	
DUKE POWER COMPANY	)	Dkt. No. 70-2623
	)	
(Amendment to Operating License SNM-1773 for Oconee Spent Fuel Transportation and Storage at McGuire Nuclear Station)	)	



AFFIDAVIT OF

ARTHUR R. TAMPLIN AND THOMAS B. COCHRAN

City of Washington)
) ss:
District of Columbia)

Arthur R. Tamplin and Thomas B. Cochran, being first duly sworn, do hereby depose and say:

At the present time, the United States does not have a definite strategy for nuclear waste management. The Interagency Review Group on Nuclear Waste Management submitted its Report to the President (IRG Report) in March 1979. Several waste management issues were left unresolved. The IRG Report indicates that, depending upon the waste management strategy chosen, the earliest date for the opening of a high level radioactive waste repository is in the range from 1988 to 1995.[1/]

The IRG did not recommend, much less choose, any of the strategies set forth in the IRG Report. The choice will be made only after necessary Environmental Impact Statements are prepared and the NEPA process is completed. For interim planning purposes, the President will be asked to choose a strategy. The President's option paper is currently being prepared by the Administration. Based on discussions with Administration officials, the current draft Presidential decision memorandum presents 3 options. One option would result in site selection from among two or three qualified sites in different geologic media. The earliest this could happen is 1982 with a 1-2 year uncertainty. Assuming an 8 year construction time with 2-3 years uncertainty, operation could begin no earlier than 1990 and possible 5 years later (1-2 years plus 2-3 years).

1/ IRG Report, Report to the President by the Interagency Review Group on Nuclear Waste Management, TID-29442, March 1979, pp. 60-63.

Under a second option where site selection awaits 4 or 5 qualified sites, site selection would be in 1985 at the earliest and repository operation in 1993 at the earliest, again with a possible 5 year delay.

The third option creates a process by 1981 for choosing the number of qualified sites from which the final choice will be made. Since this option would not add further delays beyond those already considered, the final repository could be operational in the 1993-1998 period, as under the second option.

The above considerations indicate that the earliest Administration target date for the opening of a repository is 1990. If the project is allowed to proceed, the WIPP facility could be completed earlier. However, this facility will receive, at most, only 1000 fuel assemblies.[2/] Hence it will not relieve the spent fuel storage problem at reactors.

It should be noted that the earliest date (1990) is feasible only if salt is selected as the medium for the first repository. If salt disposal (or the first site) proves unacceptable, the first permanent repository will not be available until several years later.

Also, the IRG Report assumes that to dispose of the lifetime accumulation of defense and commercial high level waste, 3 to 6 repositories would be required (IRG Report, p. 12), assuming the commercial waste repository is 2000 acres and handles about 100,000 metric tons of high level waste (See IRG Report, p. D-22). The low and high figures (3 and 6 repositories)

2/ WIPP, Waste Isolation Pilot Plant, Draft Environment Impact Statement, DOE/EIS-0026-D, U.S. Department of Energy, April 1979, p. 1-2.

are for nuclear reactor growth scenerios equal to 148 Gwe and 380 Gwe (capacity in year 2000), respectively. If the repositories are more conservatively designed (e.g., if they will handle only 33,000 MT), then the number of repositories will be 3 times greater, or 9-18 repositories. Thus, Duke cannot necessarily count on utilizing the first repository. It may be solely for military waste. Duke also cannot count on the first commercial waste repository to meet all of its spent fuel storage disposal needs. Duke may have to wait one or more decades beyond 1990 to insure its spent fuel disposal needs are met.

Nevertheless, it is still useful to compare even the earliest, the 1990 target date, with the spent fuel storage capacity at the Oconee and McGuire nuclear stations in order to determine whether the proposed action sufficient to allow operation of the reactors until a waste repository is available.[3/]

Oconee Units 1 and 2 share the same spent fuel pool. Unit 3 has a separate pool. The pools were originally designed to be capable of storing 1 2/3 and 1 1/3 cores respectively. The actual design capacity for each pool was[4/]

Units 1 & 2	336 locations
Unit 3	216 locations
Total	552

3/ Attachment 2, Letter to Harold L. Denton (NRC) from William D. Parker, Jr. (Duke Power), Information in Support of Spent Fuel Modification and Units 1 and 2, February 2, 1979.

4/ Ibid., p. 1-1.

TABLE 1.6-1
OCONEE NUCLEAR STATION

Anticipated Refueling Schedule/Storage Space Inventory

Unit	Estimated Refueling Date	Anticipated No. Of Assemblies Discharged	Without Reracking Or Transshipment: Total No. Of Rack Locations Remaining After Refueling	Without Reracking Or Transshipment: No. Of Useable Rack Locations Remaining After Refueling	With Reracking Only: Total No. Of Rack Locations Remaining After Refueling
Current Status		545 (current)	265 (current)	214 (current)	---
3	May, 1979	56	209	158	623
1	November, 1979	68	141	90	555
2	January, 1980	68	73	22	487
3	May, 1980	56	17	---	431
1	April, 1981	72	---	---	359
3	May, 1981	56	---	---	303
2	June, 1981	72	---	---	231
3	May, 1982	56	---	---	175
1	September, 1982	72	---	---	103
2	January, 1983	72	---	---	31
3	July, 1983	56	---	---	---

Duke received approval (Dec. 22, 1975) and subsequently increased the capacity of Unit 3 from 216 to 474 locations.[5] Thus

Units 1 & 2	336 locations
Unit 3	474 locations
Total	810 locations

On February 2, 1979, Duke requested approval to increase the capacity of the Unit 1 & 2 pool from 336 locations to 750 locations.[6] If approved, this would provide

Units 1 & 2	750 locations
Unit 3	474
Total	1224 locations

In order to maintain a FCR at least 177 locations must remain available. From the attached Table 1.0-1[7], based on Duke Feb. 2, 1979 estimates, if the Unit 1 & 2 pool is not reracked and no transshipments are allowed, Oconee will loose FCR upon completion of the May 1979 reloading of Unit 3. Oconee will run out of space at the time of the May 1980 discharge of Unit 2.

51 locations are identified as unusable due to "storage of irradiated components in the pool, the presence of Post Irradiation Examination equipment and interference from structures in the pool area". It appears that some or most of these spaces could be made avialable in the event a full core discharge were necessary, thus shifting the time FCR is lost from

5/ Ibid.

6/ Ibid.

7/ Ibid., p. 1-3

May 1979 to Nov. 1979.[8]

If Units 1 and 2 are reracked according to the request by Duke, but no transshipment is allowed, then according to Table 1.0-1, FCR is lost after the May 1982 refueling of Unit 3 and Oconee will run out of space at the time of the July 3, 1983 discharge of Unit 3.

These periods of loss of FCR and loss of space occur well before the earliest availability of a permanent geologic repository, 1990-1998.

McGuire

According to a March 1978 estimate, fuel loading was scheduled for McGuire Unit 1 in Januar 1979 and Unit 2 in September 1980. Commercial operation is to begin in July 1979 for Unit 1 and in March 1981 for Unit 2.[9]

The Unit 1 pool is designed to hold 500 fuel assemblies (about 2 2/3 cores).[10] A full core for Unit 1 consists of 193 assemblies. One third (64 or 65) of the assemblies will be replaced each year. Without reracking and without storing Oconee fuel at McGuire, Unit will run out of FCR approximately 5 to 6 years after beginning commercial operation in July 1979 or in 1984-1985. It will run out of space altogether some

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8/ Snead, H.T. (Duke Power), Memorandum For File, Subject: McGuire Nuclear Station Amendment to SNML-1973 File MC 514.26, January 19, 1974.

9/ Duke Power Company, McGuire Nuclear Station, Information Supporting Storage of Oconee Spent Fuel at McGuire, March 9, 1978, p. 1-1.

10/ U.S. NRC, Environmental Impact Appraisal Related to Spent Fuel Storage of Oconee Spent Fuel at McGuire Nuclear Station - Unit 1 Spent Fuel Pool, December 1973, pp. 13-14.

3 years later or in 1987-1988.

The pool for Unit 2 is similar to that of Unit 1. Unit 2 will thus loose FCR in 1986-1987 and space altogether in 1989-1990. If Unit 1 fuel were stored in the Unit 2 pool, these events would occur earlier. If Oconee fuel were stored at Mc Guire, the spent fuel storage capacity would be filled sooner still.

Thus, at McGuire, the loss of FCR and total space occurs prior to the earliest target date (1990) for a waste repository. The shipment of Oconee fuel to McGuire is not a solution to the spent fuel storage problem at either station. It appears that Duke Power recognizes this and is in fact planning for an additional interim step in the future that will involve shipment to Catawba. In a memorandum to other employees, Mr. R.W. Bostain of Duke Power states:

> I am particularly concerned that our response to the questionnaire will give information on our shipping program providing for transfer of spent fuel assemblies from Oconee to McGuire and from McGuire and Oconee to Catawba. 11/

11/ Memorandum from R.W. Bostain to Mr. B.B. Parker, et al., Subject: Spent Fuel Storage, Moss Subcommittee, File GS 516.10, November 10, 1977.

This licensing action is just the prelude to similar licensing actions for transfer of fuel from both McGuire and Oconee to Catawba. In fact, Duke Power schedules for their so-called cascade program anticipate transfer of fuel from Oconee to Catawba as early as 1981 and from Mc Guire to Catawba in 1985.[12/] One can anticipate further action to transfer fuel from these 3 stations to another station in the Duke system.

Each of these licensing actions without remedial action at the reactor stations forces the subseqnent licensing action to be granted and to be granted on the same basis as the original action - a kind of a nuclear chain letter. The entire scheme is based upon the assumption that a series of reactors will be licensed on a timely basis and that the subsequent transshipments will also be allowed on a timely basis. The prudent course of action is to begin now to remedy the situation at the reactor stations so that this series of transshipments is not required.

In response to NRDC Interrogatory 16, the Applicant stated that by using neutron absorbing racks in the pools and by constructing additional pools at the reactor stations, the following could be achieved:

12/ Glover, Michael R., Memorandum to File, Subject: Cascade Program Cost, File No. GS-514.26, April 26, 1979.

> If Oconee and McGuire were reracked to the above capacities and either had or were without an ISFSF, FCR at the two sites would be lost as noted below:
>
> Oconee (with ISFSF) - 1998
>
> (without ISFSF) - 1987
>
> McGuire (with ISFSF) - 2005-2010
>
> (without ISFSF) - 1999

Since the McGuire pools are empty this approach is straightforward. However, a Duke Power Memorandum indicates that this can also be accomplished at Oconee:

> Attachment 2 will provide you with the proposed schedule for reracking operations. It is our opinion that the proposed schedule does not preclude the installation of poison type storage racks. Our information does indicate, however, that the selection of poison type storage racks would require the modification to be performed in two phases, one phase to be completed prior to the unit 1 and 2 refuelings in late 1979 and the second phase to be completed in 1980, after the completion of these refueling outages. 13/

Mr. Fairtale of NRC informed us that he intends to submit the licensing package to Duke Power by June 8, 1979. 14/ Thus the reracking can occur on schedule and without transshipment. Duke Power could apply now for permission to rerack all units

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13/ Canady, K.S. to K.R. Wilson, Subject: Oconee Nuclear Station, Unit 1 and 2 Spent Fuel Modification, File No. OS 514.27, December 29, 1978.

14/ Fairtile, Morton B., NRC, Oconee Project Manager, Div. of Operating Reactors, Branch No. 4, Telephone Communication, May 16, 1979.

at Oconee with neutron absorber racks. Mr. Fairtile informed us that the licensing of such racks involves no greater time than plain stainless steel racks.[15] According to the Applicants' answer to NRDC Interrogatory 16, this reracking would give Duke Power until 1987 to build an ISFSF at Oconee.

At the same time, without going to neutron absorbing racks, an ISFSF could be constructed at Oconee by May 1982 (time of loss of FCR) if the decision to proceed is made within the next two months.[16] These considerations indicate that Duke Power has viable (and more prudent) alternatives to their transshipment cascade proposal.

In their answer to NRDC Interrogatory 10, the Applicant indicates that transshipment will provide FCR at Oconee, McGuire and Catawba only until 1991. Supposedly at that time, all 3 stations (7 reactors) will want to be licensed to ship to Cherokee and/or Perkins (See Affidavit of Stitalny and Glenn of NRC at page 9). Duke Power thus must assume that these reactors will be constructed and licensed on a timely basis and that the transshipments will be allowed. Even then this would only carry them until 1995. In their answer to NRDC Interrogatory 18, the Applicant states that at that time they would build an ISFSF if necessary.

In this affidavit, on pages 2 and 3, we demonstrate that

15/ Ibid.

16/ RMG, Memorandum to File, Subject: Contingency Plans For Spent Fuel Storage, File No. OS-S14.26, December 8, 1978.

it is indeed optimistic to propose that Duke Power's spent fuel problems will be resolved in the 1990's. The more realistic assumption is that even if all this proves possible and is allowed, Duke Power will have to build an ISFSF. At that point, all the transshipment cost will be added cost and the overall cost of the ISFSF will be greater. Construction of an ISFSF at Oconee now will meet their spent fuel needs to the year 2000 (and beyond if they build a larger one) without transshipment.

All the above statements are true and correct to the best of our personal knowledge.

Arthur R. Tamplin, Ph.D.

Thomas B. Cochran, Ph.D.

Signed and sworn to before me
this 25th day of May 1979.

Notary Public

My Commission Expires September 30, 1982

Arthur R. Tamplin

Born in Peoria, Illinois - November 4, 1926

B.A. in Biochemistry - University of California, Berkeley, Calif., 1953, Cum Laude

Ph.D. in Biophysics - University of California, Berkeley, Calif., 1959

His graduate work included studies of the role of fats in the development of heart disease and the general problem of aging.

1959-1963 - RAND Corp. - Santa Monica, California

As a research associate he worked on various problems of national defense, primarily target search and identification and biological and chemical warfare. Also worked on problems associated with the Space program, in particular the biological effects of cosmic rays and oxygen regeneration.

1963-1973 - Lawrence Livermore Laboratory - Livermore, Calif.

As a Group Leader in the Biomedical Division he has been responsible for developing an adequate state-of-the-art ability to predict the ultimate distribution within the biosphere, particularly the concentration in man, of each and every radionuclide produced in the explosion of a nuclear device. In addition to determining the concentration of the radionuclides, this program is concerned with the effects of their radiation on man.

During the period June 1967 to January 1969 he was a member of the AEC's Division of Biology and Medicine Committee on Space Nuclear Systems Radiological Safety. The primary interest of this committee was the hazard of plutonium.

1974 - Natural Resources Defense Council - Washington, D.C.

While on a year's leave of absence from the Lawrence Laboratory, he worked with NRDC on problems associated with the Fast Breeder Reactor Program and plutonium toxicity.

1975 - Natural Resources Defense Council - Washington, D.C.
Miljocentrum - Uppsala, Sweden

After resigning his position at the Lawrence Laboratory in January 1975, he worked with both NRDC and Miljocentrum on problems related to nuclear power, alternative energy sources and energy conservation.

1976-Present - Natural Resources Defense Council, Washington, D.C.

October 2, 1978

RESUME

Thomas B. Cochran, Ph.D.

Business Address:
Natural Resources Defense Council, Inc.
917 15th Street, N.W.
Washington, D.C. 20005
(202) 737-5000

Home Address:
4836 North 30th Street
Arlington, Virginia 22207
(703) 532-1044

EMPLOYMENT HISTORY

April 1973 - present: Natural Resources Defense Council, Inc., Washington, D.C., Senior Staff Scientist, focusing on national energy R&D policy, principally nuclear energy issues, the breeder reactor, plutonium recycle, nuclear weapons proliferation, safeguards and radiation exposure standards. Consultant to the Deparment of Energy (DOE) on nuclear nonproliferation and nuclear R&D strategy; consultant to the Comptroller General on (a) US and international controls over the peaceful uses of nuclear energy, (b) Advanced Nuclear Technologies, and (c) U.S. Liquid Metal Fast Breeder Reactor Program; Consultant to Office of Technology Assessment (OTA); Member of DOE's Energy Research Advisory Board, DOE's Nonproliferation Advisory Panel, OTA's Advisory Panel on Nuclear Proliferation and Safeguards, the Nuclear Task Group of OTA's Analyses of the ERDA Plan and Program, and OTA's Gas Curtailment Study Review Panel. Consultant to Governor of Lower Saxony, F.R.G. to serve as an International Expert in the Review of the Gorleben Nuclear Fuel Cycle Center. Served as a member of ERDA's LMFBR Review Steering Committee, the National Academy of Sciences' Panel on Strategy for Developing Nuclear Merchant Ships, the Task Force on Energy Conversion Research and Development of the Federal Power Survey, the United Nations' Environment Programme's International Panel of Experts on Energy and the Environment, the National Council of Churches' Energy Study Panel and the World Council of Churches' Energy Advisory Group and World Council of Churches' Consultation on Ecumenical Concerns in Relation to Nuclear Energy. Also served as a consultant to Resources for the Future, Washington, D.C. and numerous environmental organizations. Testified before Congress and Federal Agency hearings on numerous occasions including testimony before the Joint Committee on Atomic Energy, the House Committee on Interior and Insular Affairs, the Joint Economic Committee, the House Committee on Small Business and the Nuclear Regulatory Commission's Advisory Committee on Reactor Safeguards.

June 1971 - April 1973: Resources for the Future, Inc., Washington, D.C., Senior Research Associate. Quality of the Environment Program. Studying environmental effects of the U.S. civilian nuclear power industry; residuals management in the nuclear fuel cycle; liquid metal fast breeder reactor program; national energy policy; and radiation standards. Wrote a book, The Liquid Metal Fast Breeder Reactor: An Environmental and Economic Critique.

1969 - 1971: Litton Mellonics Division, Scientific Support Laboratory, Fort Ord, California. Modeling and Simulation Group Supervisor. Supervised the activities of 10 operation research analysts engaged in military research pertinent to the evaluation of proposed U.S. Army concepts and material by U.S. Army CDCEC.

1967-1969: U.S. Naval Postgraduate School, Monterey, California. Lt-USNR, Active Duty; Assistant Professor of Physics; Radiation Safety Committee; Part-time research involving computer studies of synchrotron radiation production in beam transport systems at Stanford Linear Accelerator, Stanford, California.

EDUCATION:

Post doctorate, Summer 1969: University of Colorado, Boulder, Colorado. Summer Institute of Theoretical Physics.

Doctorate, 1965 - 1967: Vanderbilt University, Nashville, Tennessee. Major: Physics; Minor: Mathematics. Research in high energy (Bubble Chamber) physics. NASA Fellowship. Guest Research Associate in Physics Department at Brookhaven National Laboratory, Upton, L.I., New York, studying synchrotron radiation shielding problems.

M.S., 1962 - 1965: Vanderbilt University, Nashville, Tennessee. Degree in Physics; research in radiation chemistry; AEC Health Physics Fellow; Applied Health Physics training, Oak Ridge National Laboratory; Vanderbilt University Campus Radiation Safety Officer.

B.E., 1958 - 1962: Vanderbilt University, Nashville, Tennessee. Electrical engineering, Cum Laude, NROTC.

PROFESSIONAL AFFILIATIONS:

American Physical Society
American Nuclear Society
Health Physics Society
Sigma Xi

PERSONAL:

Age -- 37; Birth date -- 18 Nov. 1940; Birth place, Washington, D.C.; Wife -- Carol J. Cochran; Two children, ages 5 and 2.

BOOKS

The Liquid Metal Fast Breeder Reactor: An Environmental and Economic Critique. Resources for the Future, Washington, D.C., 1974. Reviewed in Science 176 (April 28, 1974), pp. 391-393.

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1. Before the Subcommittee on Environment and Atmosphere, House Committee on Science and Technology, July 18, 1978

2. Before the Subcommittee on Energy and Environment, House Committee on Interior and Insular Affairs, Re: Mr. Conran's Allegations, July 29, 1977

3. Before the Subcommittee on Fossil and Nuclear Energy Research, House Committee on Science and Technology, June 10, 1977

4. Before the Subcommittee on Energy Research and Development, Senate Committee on Energy and Natural Resources, June 8, 1977

5. Before the Subcommittee on Energy and the Environment of the House Committee on Interior and Insular Affairs, April 29, 1977

6. Before the Subcommittee on Energy Research and Development, Senate Committee on Energy and Natural Resources, March 28, 1977

7. Before the Subcommittee on Fossil & Nuclear Energy R&D, House Committee on Science and Technology, March 4, 1977

8. Before the Subcommittee on Energy and the Environment, House Committee on Interior and Insular Affairs -- Adequacy of domestic safeguards, February 27, 1976

9. Before the Joint Committee on Atomic Energy, Subcommittee to Review the National Breeder Reactor Program -- Breeder reactor program economics, July 10, 1975

10. Before the Subcommittee on Energy and the Environment, House Committee on Energy and the Environment, House Committee on Interior and Insular Affairs -- Clinch River Breeder Reactor Demonstration Program, June 2, 1975

11. Before the Joint Economic Committee, Breeder Reactor Hearings -- Breeder reactor program economics, May 8, 1975

12. Before the Subcommittee on Energy and the Environment, House Committee on Interior and Insular Affairs, Hearings on Nuclear Energy -- Breeder reactor program, May 2, 1975

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NRDC Supplemental Submission to the Environmental Protection Agency Public Hearing on Plutonium and the Transuranium Elements (Feb. 24, 1975); with Arthur R. Tamplin

NRDC Statement at the Environmental Protection Agency Public Hearings on Plutonium and the Transuranium Elements (Dec. 10, 1974); With Arthur R. Tamplin and J. Gustave Speth.

"A Critique of the Biophysical Society's DRAFT Comments on 'Radiation Standards for Hot Particles,'" NRDC (Dec. 1974); with Arthur R. Tamplin.

"The Hot Particle Issue: A Critique of WASH 1320 as It Relates to the Hot Particle Hypothesis." (November, 1974); with Arthur R. Tamplin.

Petition to Amend Radiation Protection Standards As They Apply to Hot Particles, submitted to The Environmental Protection Agency and The Atomic Energy Commission by Natural Resources Defense Council (Apr. 10, 1974); with Arthur R. Tamplin

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Nuclear Waste, Too Much, Too Soon, with Arthur R. Tamplin, May 1, 1978

Testimony at the Windscale Inquiry, Whitehaven, Cumbria, Great Britain, September 12, 1977.

Proliferation Resistant Nuclear Power Technologies: Preferred Alternatives To The Plutonium Breeder, with Russell E. Train, Frank von Hippel, Robert H. Williams (members of the LMFBR Review Steering Committee),(April 6, 1977).

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The Plutonium Decision: A Report on the Risks of Plutonium Recycle, with J. Gustave Speth and Arthur R. Tamplin (Sept. 1974).

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Antiisobar Production in Antiproton-Deuteron Interactions at 2.8 GeV/c.
Ph.D. Dissertation (unpublished), Vanderbilt University (1967).

BRIEF RESUME OF DIMITRI ROTOW

I have been trained in both physics and economics. I received two years of college physics and advanced mathematics training at Franklin & Marshall College in Lancaster, Pennsylvania during 1971-72 instead of attending my last two years of high school. I was allowed to attend college instead of high school by the Lancaster City School board by virtue of independent study and exceptional academic performance: by age 15 I had passed into college-level science.

I entered Harvard College in 1972 and studied physics and mathematics until the spring of 1974. At that time, I went on a leave of absence for the year of 1974.

During my leave I worked for the Honorable Birch Bayh, United States Senator from Indiana. During my stay with Senator Bayh, I corresponded on his behalf with key constituents, business leaders, financial supporters, and other Senators and Congressmen in matters relating to energy issues. Further, I personally wrote, or assisted in writing, ten statements delivered on the Senate floor on energy and other public policy issues. Finally, I did basic research fundamental to the Senator's voting on key technical and economic issues in energy legislation.

I returned to Harvard College in 1975 and studied economics for a year and a half. During this time, I studied with Professors from the Harvard Business School and the Kennedy School of Public Policy Administration in courses on decision-making at the graduate level offered by the Harvard Graduate School of Economics. I also studied economics at Georgetown University, where I attended a summer class on economics attended by workers in the federal government. During my last semester at Harvard, I was a member of a Harvard Graduate School of Economics research seminar on social choice and decision-making led by Nobel Laureate Kenneth Arrow.

I left Harvard [illegible] in the spring of 1977 for a three year absence [illegible] the first nine months of 1977 I made a living by [illegible] with the Middle East Trading Company, Ltd., of London [illegible] high technology investments in the United States. In November of 1977 I undertook a

freelance writing project to produce a book on nuclear weapons. In March of 1978 I testified before the United States Senate Subcommittee chaired by Senator John Glenn on the results of the book project: a 400-page manuscript describing in unprecedented detail the design and construction of over 50 atomic and thermonuclear explosives. United States government weapons experts testified at the hearings and praised my book for its extraordinary thoroughness and credibility.

In early May of 1978 I traveled to the Los Alamos Scientific Laboratory, where I conducted research at the National Security and Resources Study Center that once again gained international recognition in nuclear weapons studies.

In early June of 1978 I was informed by the Department of Energy that my book on nuclear weapons was classified "Secret Restricted Data" and that my knowledge of nuclear weapons design was such that anything I might ever say or write on the subject, including any calculational or other notes, is to be considered "Secret Restricted Data" until cleared by a classification review. I was issued on office at the 20 Massachusetts Avenue, Department of Energy building that contained two safe-like file cabinets kept under armed guard. I was informed by the government that this office was being made available (free of charge) to me for my use so that I would have a safe and secure office in which to continue my work on nuclear weapons and national security issues.

In September of 1979 I began work as a consultant to the Natural Resources Defense Council under contract to the Department of Energy in a project studying nuclear waste disposal. This project, together with my earlier interactions with top Department of Energy decision-makers, gave me insight into the decision-making and planning processes within the Department of Energy.

Finally, during May of 1979 I have spent two weeks on leave from NRDC in order to assist the American Civil Liberties Union in its defense of the Progressive magazine. The ACLU retained me as an independent expert on nuclear weapons.

Exhibit A

Survey of Utility Spent Fuel Managers Reactor: _____

Reactor Operating Utility:
Address:
Telephone:

Spent Fuel Manager: Telephone:

I spoke with: Telephone:
Date:

How many assemblies in a full core?

How much capacity in spent fuel pool?

How much space filled at present?

When is next discharge?

How many rods will be discharged next? Annually (or whatever)?

What are future expansion plans?

What is utility's position with respect to FCR capability?

What will utility do if no government AFR is available?

What are utility's plans vis a vis:

West Valley

Barnwell

Morris

Juggling