IDAHO STATE UNIVERSITY

College of Engineering
Campus Box 8060
Pocatello, Idaho
83209-8060

July 15, 1998

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Re: Response to Request for Additional Information:
Idaho State Renewal, TAC No. L31020
Docket No. 70-1374, License No. SNM-1373

Dear Madam/Sir:

Transmitted herewith is our formal response to your request for additional information regarding the renewal of Materials License SNM-1373 at Idaho State University.

Please call me at (208) 236-3351 if additional information is required.

Sincerely,

John S. Bennion, Ph.D., P.E., CHP
Reactor Administrator

cc: Mr. Sean Soong, Licensing Branch
Division of Fuel Cycle Safety and Safeguards, NMSS

1/1

NRC

Phone:
(208) 236-2902
FAX:
(208) 236-4538

Response to Request for Additional Information

Idaho State University College of Engineering
Materials License SNM-1373, Docket No. 70-1374

1. Section 70.22.a.3 on page 3 may be revised to request a 10-year license as NRC has allowed.

   Response: Section 70.22.a.3 shall be modified to include the following:

   This license is requested for a period of 10 years. It is expected that a request for renewal will be submitted at the end of that period.

2. Section 70.22.a.6 on page 3 should be modified to state that the Dean, College of Engineering, the Reactor Administrator, and the Radiation Safety Officer will be responsible for the supervision and operation of the licensed activities.

   Response: Section 70.22.a.6 shall be modified to include the following:

   Responsibility for the supervision and operation of licensed activities will reside with the Dean, College of Engineering, the Reactor Administrator, and the Radiation Safety Officer.

3. Section 70.22.a.7(b) on page 4 should be modified to add that all radiation detection instruments used in connection with this license shall be calibrated at intervals not to exceed 8 months.

   Response: Section 70.22.a.7 shall be modified to include the following:

   All radiation detection instruments used in connection with this license shall be calibrated at intervals not to exceed 8 months.

4. Section 70.22.a.8(a)(ii) on page 7 should be deleted, since the Pu-Be sources are no longer an authorized material.

   Response: Section 70.22.a.8(a)(ii) shall be deleted.

5. Section 70.22.a.8(e) on page 8 should be modified to add that a radiological contamination survey shall be conducted in the work area of the Accelerator Facility monthly or

after completion of each project with the licensed material, which ever one is shorter.

Response: Section 70.22.a.8(e) shall be modified to include the following:

A radiological survey shall be conducted in the work area of the Accelerator Center after completion of each project using the licensed materials.

6. Section 70.22.b on page 9 should be modified to add the following:

(a) Prior to working or handling licensed nuclear material, all personnel shall receive training or shall be under the supervision of persons who have received training in radiation protection.

(b) The Radiation Safety Officer shall review radiation dose data annually to ensure that doses are maintained ALARA and shall report the findings of the assessment to the Radiation Safety Committee.

(c) The Reactor Safety Committee shall review and approve all plans and procedures for the use of the licensed material.

(d) The description of the qualifications of personnel who will be responsible for the safety and use of the licensed material at the Accelerator Center.

(e) The usage and transfer of licensed material will not occur until approval has been granted by the Reactor Administrator.

Response: Section 70.22.b(ii) shall be modified to include the following:

(1) Prior to working or handling licensed nuclear material, all personnel shall have received training or shall be under the supervision of persons who have received training in radiation protection.

(2) The Radiation Safety Officer shall review radiation dose data annually to ensure that doses are maintained ALARA and shall report the findings of the assessment to the Radiation Safety Committee.

(3) The Reactor Safety Committee shall review and approve all new experimental plans and procedures for the use of the licensed material. The Reactor Safety Committee

shall review and approve all changes to existing experimental plans and procedures that may affect safety.

(4) Responsibility for the safety and use of the licensed material at the Accelerator Center facilities shall rest with the Director of the Accelerator Center. The Director is currently:

J. Frank Harmon, Ph.D., Professor of Physics and Director of the ISU Accelerator Center

In addition, the Director of the Accelerator Center has authorized the following personnel to be responsible for the safety and use of the licensed material at the Accelerator Center facilities in the absence of the Director:

Richard R. Brey, Ph.D., CHP, Assistant Professor and Director of the ISU Health Physics Program

Bradley King, B.S.E., Accelerator Center Staff Engineer

Statements of qualification for each of these individuals are attached as Enclosure (1).

(5) The usage and transfer of the licensed material will not occur until approval has been granted by the Reactor Administrator or his/her designee.

7. Section 70.24.a on page 9 should be modified to include how the criticality alarm system meets the radiation level requirements.

Response: Section 70.24.a shall be modified to include the following:

The criticality alarm is a Ludlum Model 300 remote area monitor, or equivalent system. It is installed six feet away from the assembly tank. The instrument specifications are provided as Enclosure (5). The criticality alarm system meets the radiation level criteria stated in 10 CFR 70.24(a)(2).

8. Section 70.24.b on page 9 should be modified to include the emergency procedures for the Accelerator Center.

Response: Section 70.24.b shall be modified to include emergency procedures for the Accelerator Center

facilities.

The following procedures are to be observed in the event of an emergency at any of the Accelerator Facility sites.

(1) Secure all power to the accelerator.

(2) Contact Technical Safety Office (TSO) immediately, telephone #236-2310/2311. Contact experiment supervisor.

(3) Contact Reactor Administrator (telephone #236-3351/2902) immediately if emergency involves fissile materials on loan from the Nuclear Facility in the College of Engineering.

(4) Immediately write down a description of the incident so the events may be reconstructed.

(5) Remain in the area for the TSO officer and experiment supervisor who will evaluate the hazard. (Note: Only remain in the area if power is secured and no radiation hazard is present.)

9. Provide a copy of the nuclear criticality safety study of fuel arrangement experiments which concluded that the assembly is subcritical under normal water reflector and moderator but could be made critical through the use of effective reflectors or moderators such as heavy water, beryllium, and graphite.

Response:

Nuclear criticality safety calculations have been performed for three general fuel arrangements used in the Subcritical Assembly (SCA) as part of a master's thesis written by Prinya Jotikasthira in 1973. The three configurations are assembled using different grid support structures such that the lattice is comprised of discrete fuel positions consisting of single, double, or triple fuel plates. In the latter two configurations, two or three fuel plates, respectively, are stacked together to form each lattice fuel position. Criticality safety calculations for these lattices were performed using the DISNEL computer code (Reference: J.F. Kunze , 1971. "User's Guide for Reactor Physics Computer Code DISNEL [Diffusion Iterative Solution for Nineteen Energy Levels]," Reactor Development Branch Idaho Nuclear Corporation [later Aerojet Nuclear Corporation]). In all cases, the effective multiplication factor, k_{eff}, was calculated to be less than 0.9. Experimental measurements of k_{eff} were made for several fuel

configurations and are documented in the thesis. Measured values of k_{eff} confirmed the calculated values. A copy of the thesis is transmitted as Enclosure A1.

NOTE: No additional information regarding criticality safety studies using effective reflecting or moderating materials are available.

10. Provide a copy of the study which concluded that the administrative controls which limits the types and amounts of superior moderator or reflector materials in the assembly, as shown in section 70.22.a.8(c) of your renewal application, are sufficient to preclude an inadvertent criticality.

Response:

The information regarding the types and amounts of superior moderator or reflector materials limited by administrative controls from being taken into the SCA room was obtained from a report written by a professor at Rutgers University sometime before the materials were transferred to ISU. Apparently ISU no longer has a copy of the Rutgers report. However, the information is available from the NRC docket file for Rutgers (Docket No. 70-00431, License No. SNM-00431), and

At this time, the ISU Nuclear Facility does not possess most of the superior moderating and reflecting materials listed in the administrative control, viz. heavy water, beryllium, or beryllium oxide. The listing of these materials in the administrative control notice appears to be a carry-over from the policies in effect when the (SCA) was in operation at Rutgers University. Although small amounts of reactor-grade graphite is used occasionally by the facility in conjunction with operation of its 5-W AGN-201 reactor (License No. R-110, Docket No. 50-284), none of this graphite will be used in conjunction with the operation of the SCA. In order to eliminate any concern regarding this issue, the facility will revise its administrative control policy to prohibit the use of superior moderator or reflector materials in conjunction with the operation of the SCA.

Therefore, Section 70.22.a.8(c) shall be modified as follows:

The SCA has been designed to be subcritical under all conditions. Operation has verified the design calculations. Criticality, however, might be possible by the deliberate and unauthorized use of superior moderator or reflector

materials with the licensed material arranged in an optimal geometric configuration. Prevention of inadvertent criticality will be accomplished by restricting or prohibiting the use of superior moderator or reflector materials in the SCA room. Specifically, beryllium, beryllium oxide, and heavy water will not be permitted in the SCA room. The use or storage of graphite in the SCA room will be restricted. Approximately 4500 lb of graphite blocks make up the thermal column beneath the SCA tank. This graphite is stacked in layers within a metal framework and will not be disassembled or otherwise disturbed during operation of the SCA except as to allow for the insertion of suitable neutron sources required for the operation of the SCA or fission foils for flux mapping experiments. Additional graphite will not be allowed within 4 ft of the SCA, including the thermal column, and the material storage cabinet, and must have the prior approval of the Reactor Administrator before such material can be moved into the SCA room. Any additional graphite shall not be used in conjunction with the operation of the SCA and shall be located away from the licensed material such that there will be no neutronic interaction between the graphite and the licensed material.

In addition to the restrictions placed on the use of the superior moderating and reflecting materials to guard against inadvertent criticality, restrictions shall be in place for the use of other fissile materials in conjunction with the operation of the SCA. Small quantities (not to exceed 3 gm total, but not including the Pu-Be neutron sources) of fissile nuclides (U-235 or Pu-239) may be used as approved by the Reactor Administrator as neutron monitors for flux mapping experiments. No other special nuclear materials will be allowed or stored in the SCA room. Only the licensed materials will be stored in the approved locations within the SCA room.

Accordingly, the following administrative control notice will be implemented to prevent inadvertent criticality and will be posted at the entrance to the SCA room:

> "NOTICE The following materials are <u>not</u> to be taken into or stored within the subcritical assembly room: beryllium, beryllium oxide, heavy water, or fissionable isotopes (^{235}U or ^{239}Pu) exceeding 3 gm of any one isotope or combination of isotopes except for the Pu-Be sources necessary for facility operation. Graphite may be taken into the subcritical assembly room only with the approval of the Reactor Administrator."

A fixed criticality alarm system is installed in Room 23. The alarm fulfills the criticality alarm requirement stated

in 10 CFR 70.24(a)(2).

11. Provide a current copy of the Emergency Plan for the nuclear Facility at Idaho State University (rev. 5 dated 4/26/94 as shown in renewal application 9/30/97).

Response: A copy of the Facility Emergency Plan, Rev. 5, dated 4/26/94,is attached as Enclosure A2.

12. Describe how firefighting is allowed in the subcritical assembly room regarding the addition of moderating materials such as water.

Response:

In the event of fire in the SCA room, normal firefighting methods and procedures will be used to control and extinguish the fire. If the fire is small, personnel will attempt to suppress the fire using the available dry chemical extinguishers or water hose after actuating the building fire alarm. No restrictions shall be placed on the use of water to extinguish fires. Although water is an excellent medium for moderating and reflecting neutrons, its use for fighting fires will not result in significant increases in k_{eff} for the following reasons: (1) licensed materials are normally secured in a water-tight cabinet, and (2) the SCA tank provides effectively infinite water reflection whenever materials are located in the tank for experiments. Therefore, any water that may be sprayed on the licensed material, or that may accumulate on the floor, will not have any significant effect on the value of k_{eff}. Excessive flooding is not likely because of the large basement floor area and also because of the presence of floor sumps and drains.

13. Describe the possession, use, and storage of the subcritical assembly while up to 10 fuel plates and/or 25 U-Al foils are being used at the ISU Accelerator Center.

Response: Section 70.22.2(b) shall be modified to include the following:

In addition, up to 10 fuel plates and/or up to 25 uranium-aluminum foils will be used occasionally at one of the facilities comprising the ISU Accelerator Center. In this capacity, the fuel plates and/or foils may be used as sources of fissile material for research and development of advanced methods for the nondestructive assay and evaluation

(NDA/NDE) of fissile material content in transuranic waste drums and other sealed packages. As such, the licensed materials will be placed in various containers to simulate waste and other packages for testing of NDA/NDE interrogation techniques.

The ISU Accelerator Center consists of three separately located facilities on the ISU campus as shown in Figure A1, attached as Enclosure A3. Site 1, known as the Particle Beam Laboratory and marked as Site 1 in Figure A1, is located in the Physical Science Building adjacent to the Lillibridge Engineering Laboratory Building, which contains the Nuclear Facility. Site 2, known as the Small Accelerator Facility and marked as Site 2 in Figure A1, is located on the lower ISU campus in Building 26, approximately 0.5 miles southeast of the Lillibridge Engineering Laboratory Building. Site 3, known as the Center Building and marked as Site 3 in Figure A1, [is currently under construction (completion expected by September 1998) and] is located at 1500 Alvin Ricken Drive on the ISU Research Park. This third site is approximately 1.5 miles northeast of the Lillibridge Engineering Laboratory Building. The location of the ISU Research Park in relation to the lower ISU campus and the Pocatello area may be seen in Figure A2, which is attached as Enclosure A4.

The locations at the Accelerator Center where the licensed material will be used are shielded bays containing various types of particle accelerators. The bays are equipped with fixed neutron monitors and are evacuated by personnel during accelerator operation. All areas are equipped with telephones, portable radiation survey meters, smoke detectors, and firefighting equipment. Because of the limited mass of fissile material that will be allowed at an Accelerator Center facility at any time (up to approximately 100 gm U-235), an inadvertent criticality is not credible at these locations. Therefore, criticality monitors will not be required to be in place at these facilities.

The licensed material shall be used during regular working hours only and at only one Accelerator Center site at any given time. The material will not be stored overnight at any Accelerator Center site, but will be returned to the Nuclear Facility at the end of each day that it is used at the Accelerator Center site. While licensed material is in use at an Accelerator Center facility, the fuel plates and foils remaining at the Nuclear Facility will be secured in an approved storage location.

Use of the licensed material at the Accelerator Center will be subject to the following restrictions. Materials must be handled carefully using gloves or tongs and must be

protected against damage to the cladding. The licensed material shall not be used with any other Special Nuclear Material at the Accelerator Center facilities, nor shall they be used with any hazardous or corrosive materials.

The materials will be transported to and from the relevant Accelerator Center site prior to and immediately following use of the materials. Materials will be transported between the LEL and the Accelerator Facilities under the supervision of ISU Technical Safety Office personnel in accordance with applicable Federal, State, and University regulations. ISU vehicles will be used to transport the materials, if required. Whenever materials are removed from Room 23 for use at the Accelerator Center, they will remain in the custody of the responsible user until returned to the approved storage container in Room 23. The responsible users at the Accelerator Center will be the Director of the Accelerator Center and others approved by him to supervise the handling and use of the licensed material at the Accelerator Center. When not in actual use, the materials will be stored in the transport packaging under the direct control and supervision of the responsible user.

All materials will be surveyed for radiation emission and surface contamination prior to transport and transfer of the materials back to the Nuclear Facility. Records of material transfer and use at the Accelerator Center will be maintained and shall include the date and time of transfer, transfer location, material inventory information, responsible user, and pertinent radiological survey information.

14. Describe the transfer and control of the fuel plates and/or foils while in transit from the Nuclear Facility to the Accelerator Center, at the Accelerator Center, and in transit from the Accelerator Center to the Nuclear Facility.

Response: See response to item 13 above.

15. Describe the location in the Accelerator Center where the fuel plates and/or foils will be used including radiation protection, criticality safety, and fire protection.

Response: See response to item 13 above.

16. Describe the possession, use, and storage of the fuel plates and/or foils at the Accelerator Center in relation to the possession, storage, and use of other SNM at the Accelerator Center.

Response: Section 70.22.2(b) shall be modified to include the following:

Small quantities of other special nuclear material may be located at any of the Accelerator Center sites at any time. Currently, there are 11 nuclear accident detectors (NADs), containing a total of 2 mCi of Pu-239 (<35 mg), on loan from the Department of Energy to personnel at the Accelerator Center. When not in use, these materials are secured in locked vaults. These other special nuclear materials shall not be used concurrently with fuel plates and/or foils covered by this license, but shall remain secured in their respective storage vaults while licensed material from the Nuclear Facility is in use at the Accelerator Center facility.

17. Provide maps describing the location of the ISU Accelerator Center in relation to the Nuclear Facility, Idaho State University, and the Pocatello area.

Response: See response to item 13 above.

Enclosure A1

Qualification Statements for Personnel at the ISU Accelerator Center

(1) Dr. J. Frank Harmon

(2) Dr. Richard R. Brey

(3) Mr. Bradley King

FRANK HARMON

Department of Physics
Idaho State University
Pocatello, ID 83209

Telephone: (208) 236-2350

POSITIONS

1997 - present	Professor - Director, Idaho Accelerator Center
1983 - 7/97:	Chairman of Department of Physics
AY 91/92:	Acting Director of Particle Beam Laboratory
Spring 1990:	Sabbatical leave at University of Münster, Germany
1980 - 1983:	Idaho State University, Professor of Physics
1972 - 1977:	Idaho State University, Chairman of Department of Physics
1973 - 1980:	Idaho State University, Associate Professor of Physics
1969 - 1973:	Idaho State University, Assistant Professor of Physics
1968 - 1969:	Research Associate - Associate Instructor (Post-Doctoral appointment) Physics Department, University of Utah, Salt Lake City, UT

EDUCATION

Ph.D., 1968, Physics, University of Wyoming (NASA Trainee)
M.S., 1965, Physics, University of Wyoming (Petroleum Research Fellow)
B.S., 1963, Physics, Portland State University

MAJOR AREAS OF INTEREST AND ACCOMPLISHMENT

Magnetic Resonance Techniques applied to the study of molecular motion in condensed phases.
Design and development of scientific instrumentation.
Generation of charged particle and proton beams, and their application to material analysis.
Emergency Planning and Preparedness

GRANTS, CONTRACTS AND AWARDS

Principle for more than 40 grants and contracts from various sources, including National Science Foundation, National Aeronautics and Space Administration, American Chemical Society, The Research Corporation and the U.S. Department of Energy.

MISCELLANEOUS

Consultant to Los Alamos Scientific Laboratory, 1979-1984.
Three Associated Western Universities Faculty Fellow Appointments.
Developed of advanced physics courses in biophysics, electronics, application of charged particle beams and Health Physics.
Consultant to INEL EG&G Idaho, Inc. and WINCO, 1986 - present.

PUBLICATIONS

Use of the $^{9}Be(\alpha,n)^{12}C$ Reaction for Detection Beryllium. (with J. Knox and G. Vizkelethy). Accepted for publication Nuclear Instruments & Methods in Spring 1994.

Detection and Profiling of Tritium in Solids, Journal of Nuclear Materials 176 & 177 (1990), 1018-1021. (with J. Knox and S. Srinivasan)

Non-Rutherford Proton Scattering in Fluorine, Nuclear Inst. & Methods, B44, 40-42 (1989). (with J. Knox)

Cross Sections and Astrophysical *S* Factor for the ^{7}Li(p,a) Reaction at Low Energies, Nuclear Instruments and Methods, B40/41, 507 (1989).

Non-Rutherford Proton Scattering in RBS Spectra, Nuclear Instruments and Methods, B24/25, 688 (1987). (with J. Knox)

Remote (Inside-Out) Nuclear Magnetic Resonance III. Detection of Nuclear Magnetic Resonance in a Remotely Produced Region of Homogeneous Magnetic Field, J. Mag. Res., 41, 411-421 (1980). (with J.A. Jackson and L.J. Burnett)

Intermolecular Spin Relaxation by Reorientation of Off-Center Spins, J. Mag. Res., 31, 411-417 (1978).

Molecular Motion in Supercooled Liquids. II. Pulsed Nuclear Magnetic Resonance Relaxation of Deuterons and Protons in 11 M Aqueous Lithium Chloride, J. Phys. Che., 82, 1938 (1978). (with E.J. Sutter)

Hydration Number of the Li Ion by Pulsed Magnetic Resonance, Chem. Phys. Lett., 36, No. 1, 49 (1975). (with E.J. Sutter and D.M. Updegrove)

Molecular Motion in Supercooled Liquids. I. Pulsed Nuclear Magnetic Resonance of Lithium-7 in M Aqueous Lithium Chloride, J. Phys. Chem., 79, 1958 (1975). (with E.J. Sutter)

GRADUATE STUDENTS ADVISED

Jeffery Burkhart (1993)
Rajat Kudchadkar (1992)
Qadeer Qazi (1992)
Chao Tang (1992)
Souvik Banerjee (1990)
Jon Stoner (1990)
Craig Hafer (1989)
David Walsh (1988)
Kalibiz Khosro-Shahroudi (1988)
Rezwanur Rahman (1987)

COLLABORATIVE SCIENTISTS

Barney Doyle
Yale D. Harker
John M. Knox
Burton H. Muller, Ph.D. Advisor
Eero Rauhala
György Vizkelethy

RICHARD R. BREY

Department of Physics
Idaho State University
Pocatello, ID 83209

Telephone: (208) 236-2667

POSITIONS

July 1994 - present	Idaho State University, Assistant Professor of Physics Director of Health Physics Program within the Department of Physics Laboratory Director - Environmental Monitoring Laboratory, Responsible for radioanalysis work
Jan. 1994 - June 1994	Purdue University School of Health Sciences, Teaching Assistant
Aug. 1990 - Dec. 1993	Purdue University, DOE Graduate Fellow
May 1991 - Aug. 1991	INEL, EG&G Idaho, Environmental Technology Unit, Intern
Aug. 1989 - Aug. 1990	Purdue University School of Health Sciences, Teaching Assistant
May 1987 - Aug. 1987	American Electric Power Service Corp., Nuclear Operations, Radiological Support Section, Columbus, OH, Intern
July 1983 - July 1986	Indiana & Michigan Electric Company, D.C. Cook Nuclear Power Station, Bridgman, MI, Chemistry Radiation Protection Technician

EDUCATION

Ph.D., 1994, Health Physics, Purdue University
M.S., 1990, Health Physics, Purdue University
B.S., 1988, Health Physics/Industrial Hygiene, Purdue University
A.A.S., 1983, Nuclear Power Technology, Terra Technical College

PROFESSIONAL CERTIFICATION

American Board of Health Physics Certification Examination, Part I

FIELDS OF SPECIALIZATION

Radiation detection instrumentation theory.
The physics and modeling of hazardous material transport through porous media
Health physics fundamentals

HONORS AND AWARDS

Honor Societies:

Phi Kapa Phi national Honor Society
Eta Sigma Gamma Honor Society
Golden Key National Honor Society

Fellowships and Scholarships:

DOE Environmental Restoration and Waste Management Fellowship
DOE Applied Health Physics Fellowship Honorable Mention
I.N.P.O. Graduate Fellowship
Health Physics Society Fellowship
I.N.P.O. Undergraduate Scholarship
D.C. Cook Scholarship/Internship Award

PROFESSIONAL ASSOCIATE AND ACTIVITIES

Society memberships:

Health Physics Society
American Nuclear Society
American Conference of Governmental Industrial Hygienists
Associate member of the American Board of Health Physics

PUBLICATIONS

Lysimeter Data as Input to Performance Assessment Models. J.W. McConnell, Jr., R.D. Rogers, T.M. Sullivan, J.D. Jastrow, D.S. Hicks, R.R. Brey. ASTM Conference Proceedings, November, 1993.

A Preliminary Investigation of the Existence of Radiocolloids in Leachate from the Epicor-II Resin/Linear Lysimeter Project. R.R. Brey, J.W. McConnell, R.D. Rogers, T.M. Sullivan. In Press, Waste Management, February, 1994.

Application of Lysimeter Data as Input to Performance Assessment Evaluations of Low-Level Waste Disposal Facility; Waste Management '93, in the Proceeding of the Symposium on Waste Management at Tucson, AZ. J.W. McConnell, R.D. Rogers, T.M. Sullivan, J.D. Jastrow, D.S. Hicks, R.R. Brey. Editor: Roy G. Post, Vol. 1, pp 401-408.

Evaluation of Epicor-II Resin/Linear Lysimeter Investigation Data Using "MIXBATH" a One Dimensional Transport Code; Waste Management '92, in the Proceeding of the Symposium on Waste Management at Tucson, AZ. J.W. McConnell, R.R. Brey, T.M. Sullivan, R.D. Rogers. Editor: Roy G. Post, Vol. 2, pp 1551-1555.

Field Lysimeter Investigation; Low-Level Waste Data Base Development Program for fiscal year 1991. J.W. McConnell, R.D. Rogers, J.D. Jastrow, D.S. Wickliff, R.R. Brey. NUREG/CR-5229, EGG-2577 Vol. 4.

The Migration of Cs-137 Through Three Different Formulations of Compressively Stressed Group; in the Proceedings of the Eighth International Congress of the International Radiation Protection Associate (IRPA8) 1992, Vol. 2, pp 1814-1817. R.R. Brey and R.R. Landolt.

Brett King
28 Rutgers
Pocatello, ID 83201
(208) 232-3691

Education:

1988 - Graduated ISU with B.S. in Engineering, 3.2 G.P.A.
1976 - Graduated U.S.N. Nuclear Power Training Unit, Idaho Falls, ID
1975 - Graduated U.S.N. Nuclear Poer School, Vallejo, CA
1974 - Graduated U.S.N. Machinest Mates "A" School, Great Lakes, IL

Experience:

1997-1998 - Working as Accelerator Engineer for ISU. Duties include building high voltage components for accelerators, assembling accelerator units, diagnosing problems with equipment, monitoring radiation levels in associated spaces, while occupied and unoccupied and supervising students in the lab spaces.

1991-1997 - Worked in partnership with father doing service work in Florida, repaired appliances and mechanical systems.

Other Equipment:

Truck driver, heavy equipment operator
Mechanic, millwright
Managed 195 seat restaurant with approximately 35 employees

Enclosure A2

Thesis: The Evaluation of the Idaho State University Subcritical Assembly