

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		In accordance with letter dated March 14, 1997	
1. University of South Dakota		3. License number 40-02331-19 is amended in its entirety to read as follows:	
2. School of Medicine 414 East Clark Street Vermillion, South Dakota 57069		4. Expiration date July 31, 2004	
		5. Docket or Reference No 030-15186	
6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license	
A. Any byproduct material listed in Section 10 CFR 33.100, Schedule A, Column I	A. Any, except sealed sources	A. As specified in Section 10 CFR 33.11(b) for a Type B specific license of broad scope	
B. Any byproduct material listed in Section 10 CFR 33.100, Schedule A, Column I	B. Sealed sources, foils, wires, plated sources, seeds, plaques	B. 500 millicuries	
C. Californium-252	C. Electrolytic deposition on a target disc obtained from Oak Ridge National Laboratory	C. 1 microgram	
D. Plutonium	D. Encapsulated as Pu- Be neutron sources	D. 32 grams	

9. Authorized use

A. through D. Laboratory research, animal studies, student training, and calibration of licensee's survey instruments.

150021



OFFICIAL RECORD COPY

9705150229 970429
PDR ADOCK 03015186
C PDR

ML40

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

40-02331-19

Docket or Reference Number

030-15186

Amendment No. 05

CONDITIONS

10. Licensed material shall be used only at The University of South Dakota, Vermillion, South Dakota.
11.
 - A. Licensed material shall be or under the supervision of Raymond J. Lynn, Ph.D.
 - B. The Radiation Safety Officer for this license is Raymond J. Lynn, Ph.D. until June 30, 1997.
 - C. Effective July 1, 1997, the Radiation Safety Officer for this license is Howard Coker, Ph.D.
12.
 - A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.
 - B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
 - C. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
 - D. Sealed sources need not be leak tested if:
 - (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

40-02331-19

Docket or Reference Number

030-15186

Amendment No. 05

- E. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Radiation Safety and Safeguards. The report shall specify the source involved, the test results, and corrective action taken.
- F. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to Perform such services.
13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
14. Detector cells containing titanium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents foil temperatures from exceeding 225 degrees Centigrade.
15. A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperature from exceeding that specified by the manufacturer and approved by U.S. Nuclear Regulatory Commission.
- B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside.
16. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
17. Licensed material shall not be used in or on human beings.
18. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.
19. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash provided:
- A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

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Docket or Reference Number

030-15186

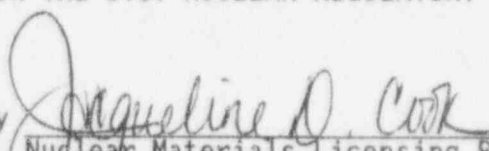
Amendment No. 05

- B. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
20. This license does not authorize commercial distribution of licensed material.
21. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
22. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
23. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of unsealed licensed material to quantities less than 10^4 times the applicable limits in Appendix B of 10 CFR Part 30 as specified in 10 CFR 30.35(d).
24. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated March 30, 1990
B. Letter dated June 1, 1993
C. Letter dated March 14, 1997
D. Letter dated April 24, 1997

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date APR 29 1997

By


Jacqueline D. Cook
Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

April 29, 1997

University of South Dakota
ATTN: Royce C. Engstrom
Acting Director
School of Medicine
414 East Clark Street
Vermillion, SD 57069

SUBJECT: LICENSE AMENDMENT

Please find enclosed License No. 40-02331-19. You should review this license carefully and be sure that you understand all conditions. If you have any questions, you may contact the reviewer who signed your license at 817-860-8132.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public which can result from failure to comply with NRC requirements, you must conduct your program involving radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

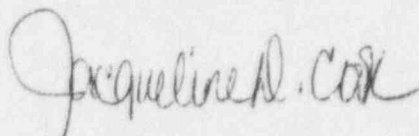
1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Possess radioactive material only in the quantity and form indicated in your license.
3. Use radioactive material only for the purpose(s) indicated in your license.
4. Notify NRC in writing of any change in mailing address (no fee required if the location of radioactive material remains the same).
5. Request and obtain written NRC consent before transferring your license or any right thereunder, either voluntarily or involuntarily, directly or indirectly, through transfer of control of your license to any person or entity. A transfer of control of your license includes not only a total change of ownership, but also a change in the controlling interest in your company whether it is a corporation, partnership, or other entity. In addition, appropriate license amendments must be requested and obtained for any other planned changes in your facility or program that are contrary to your license or contrary to representations made in your license application, as well as supplemental correspondence thereto, which are incorporated into your license. A license fee may be charged for the amendments if you are not in a fee-exempt category.

6. Maintain in a single document decommissioning records that have been certified for completeness and accuracy listing all the following items applicable to the license:
 - Onsite areas designated or formerly designated as restricted areas as defined in 10 CFR 20.3(a)(14) or 20.1003.
 - Onsite areas, other than restricted areas, where radioactive materials in quantities greater than amounts listed in Appendix C to 10 CFR 20.1001-20.2401 have been used, possessed, or stored.
 - Onsite areas, other than restricted areas, where spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site have occurred that required reporting pursuant to 10 CFR 30.50(b)(1) or (b)(4), including areas where subsequent cleanup procedures have removed the contamination.
 - Specific locations and radionuclide contents of previous and current burial areas within the site, excluding radioactive material with half-lives of 10 days or less, depleted uranium used only for shielding or as penetrators in unused munitions, or sealed sources authorized for use at temporary job sites.
 - Location and description of all contaminated equipment involved in licensed operations that is to remain onsite after license termination.
7. Submit a complete renewal application with proper fee, or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.
8. Request termination of your license if you plan to permanently discontinue activities involving radioactive material.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 60 FR 34381, June 30, 1995.

Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script, reading "Jacqueline D. Cook". The signature is written in dark ink and is positioned above the printed name.

Jacqueline D. Cook
Health Physicist
Nuclear Materials Licensing Branch

Docket: 030-15186
License: 40-02331-19
Control: 466344

Enclosures: As stated

APR 29 1997

University of South Dakota

-4-

DOCUMENT NAME: P:\MLCOVER\LETTER\UNIVSD.MLC

To receive a copy of this document, indicate in the box "C" - Copy without attachment/enclosure "E" - Copy with attachment/enclosure "N" - No Copy

RIV:NMLB	N						
JDCook	<i>JDCook</i>						
04/29/97							

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UNIVERSITY OF SOUTH DAKOTA

414 E. Clark Street
Vermillion, SD 57069

Date: 4/28/97

Time: _____

FAX TRANSMITTAL COVER SHEET

Please deliver the following page(s) immediately to:

To:

Jackie Cook

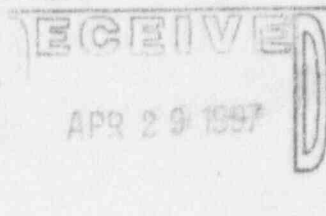
Department:

Nuclear Regulatory Commission

Location:

Fax Number:

(817) 860-8263



From....

Name:

Jan Small

Department:

Office of Research

Phone #:

(605) 677-5370

Location:

University of South Dakota

Slagle Hall - Room 211

Vermillion, South Dakota

FAX Number: (605) 677-5073

Purchasing Department: (605) 677-5667

Number of Pages to follow: 5

MESSAGE:

Enclosed is a copy of the course outline of the recent Radiation Safety Officer Training Course, completed by Dr. Howard Coker. If you need anything else, please let me know.

License No. 40-02331-19
Docket No. 030-15186
Control No. 466344

466344

Radiation Safety & Control Services, Inc.**Radiation Safety Officer Training Course****April 14-18, 1997****Portsmouth, NH****Course Schedule****Monday, April 14, 1997**

8:30am Introduction and Course Objectives
9:15am Math Review
10:00am *Break*
10:15am Nuclear Physics Review
12:00pm *Complimentary Lunch*
1:00pm Radiation and Radioactive Material
2:30pm *Break*
2:45pm Interaction of Radiation With Matter
5:00pm *Class Ends*
5:30pm *Social Hour*

Tuesday, April 15, 1997

8:00am Interaction of Radiation with Matter (con't)
10:00am *Break*

466344

Radiation Safety & Control Services, Inc.**Radiation Safety Officer Training Course****April 14-18, 1997
Portsmouth, NH****Course Schedule****Tuesday, April 15, 1997 (Con't)**

10:15am Radiation Exposure and Dose
12:00pm *Lunch*
1:00pm Biological Effects of Radiation
2:30pm *Break*
2:45pm Radiological Hazards
5:00pm *Dinner*
7:00pm Special Topics in Radiation Protection
9:00pm *Class Ends*

Wednesday, April 16, 1997

8:00am Radiological Hazards (con't)
10:00am *Break*
10:15am Radiological Hazards (con't)
12:00pm *Lunch*

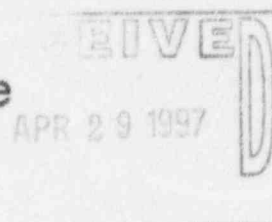
Radiation Safety & Control Services, Inc.**Radiation Safety Officer Training Course****April 14-18, 1997
Portsmouth, NH****Course Schedule****Wednesday, April 16, 1997 (con't)**

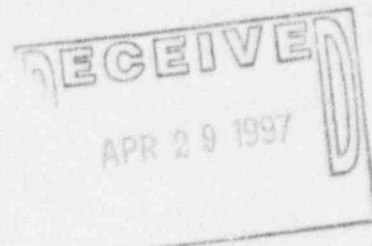
1:00pm Principals of Radiation Detection
2:30pm *Break*
2:45pm Principals of Radiation Detection (con't)
5:00pm *Class Ends*

Thursday, April 17, 1997

8:00am Operational Radiation Safety Program
10:00am *Break*
10:15am Operational Radiation Safety Program (Con't)
12:00pm *Lunch*
1:00pm Operational Radiation Safety Program (Con't)
2:30pm *Break*
2:45pm Planning For Emergencies
5:00pm *Dinner*

HW344

Radiation Safety & Control Services, Inc.**Radiation Safety Officer Training Course****April 14-18, 1997
Portsmouth, NH****Course Schedule****Thursday, April 17, 1997 (con't)****7:00pm** Special Topics in Radiation Protection**9:00pm** *Class Ends***Friday, April 18, 1997****8:00am** Nuclear Regulatory Commission Regulations**10:00am** *Break***10:15am** Transportation of Radioactive Material**12:00pm** *Class Commencement*



Radiation Safety & Control Services, Inc.

Radiation Safety Officer Training Course

Formal Radiation Safety Training Equivalent Hours

	TRAINING CATEGORY	I	II	III	IV
Monday	Introduction and Course Objectives		0.75		
	Math Review			1.00	
	Nuclear Physics Review	1.00		0.75	
	Radiation and Radioactive Material	1.00		0.75	
	Interaction of Radiation With Matter	1.75		1.00	
Tuesday	Interaction of Radiation with Matter (cont.)	2.25			
	Radiation Exposure and Dose		1.00	0.75	
	Biological Effects of Radiation			1.75	
	Radiological Hazards		1.00		1.25
	Special Topics in Radiation Protection		2.00		
Wednesday	Radiological Hazards		4.00		
	Principles of Radiation Detection	4.00			
Thursday	Operational Radiation Safety Program		5.75		
	Planning For Emergencies		2.25		
	Special Topics in Radiation Protection		2.00		
Friday	Nuclear Regulatory Commission Regulations		2.25		
	Transportation of Radioactive Material		1.75		
Totals:		10.00	22.75	4.25	3.00

Category I: Radiation Physics and Instrumentation

Category II: Principles and Practices of Radiation Protection

Category III: Mathematics Pertaining to the Use and Measurement of Radioactivity

Category IV: Biological Effects of Radiation

TrainingMaterials\res_supe.wpd

46344



UNIVERSITY of
SOUTH DAKOTA

414 EAST CLARK STREET ♦ VERMILLION, SD 57069-2390

n/5#16

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Office of Research

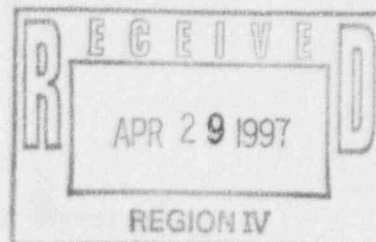
108 Slagle Hall

(605) 677-5370; FAX (605) 677-5073

email: resooff@sundance.usd.edu

April 24, 1997

Jacqueline D. Cook
Health Physicist
Nuclear Materials Licensing Branch
Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064



Dear Ms. Cook:

Enclosed please find an updated curriculum vitae for Dr. Howard Coker, who will be serving as the Radiation Safety Officer for the University of South Dakota beginning July 1, 1997. The updated CV shows (on page 5) Dr. Coker's recent completion of the "Radiation Safety Officer Training Course," that was put on by Radiation Safety & Control Services, Inc. Also attached is a copy of their certificate attesting to his completion of the course. In addition, please note that Dr. Coker completed a full year course in radiochemistry as a graduate student at Oregon State University.

I trust this information answers your questions. Please contact me if you have any further concerns.

Sincerely,

Royce C. Engstrom
Acting Director

RCE:js

cc: Howard Coker
Roy Lynn

License No. 40-02331-19
Docket No. 030-15186
Control No. 466344

466344

Radiation Safety & Control Services, Inc.

Awards this certificate to

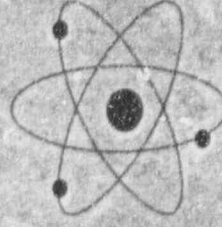
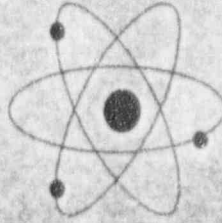
Howard Coker

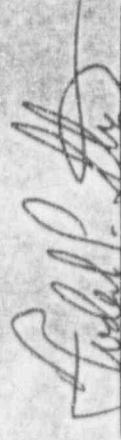
in recognition of satisfactory completion of

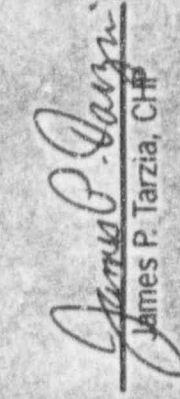
RADIATION SAFETY OFFICER TRAINING COURSE

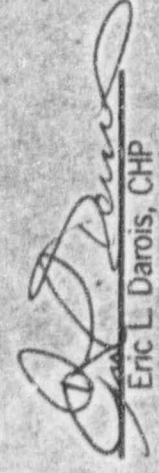
Portsmouth, New Hampshire

April 14 - 18, 1997




Frederick P. Straccia, CHP


James P. Tarzia, CHP


Eric L. Darois, CHP

E. HOWARD COKER

Curriculum Vitae

April 1997

Address:

Department of Chemistry
University of South Dakota
414 East Clark Street
Vermillion, SD 57069

Telephone:

Office: (605) 677-6184
(605) 677-6397 FAX
HCOKER@CHARLIE.USD.EDU

Home: (605) 624-4646

Social Security Number: 568-42-6448

Date of Birth: May 4, 1934

Rank and Title: Professor of Chemistry

Years at USD: 35

Education:

<u>Institution</u>	<u>Area of Specialization</u>	<u>Degree</u>	<u>Year</u>
Oregon State University	Physical Chemistry	Ph.D.	1963
University of California at Davis	Chemistry	B.A.	1956

Professional Experience:

<u>Firm/Institution</u>	<u>Position/Title</u>	<u>Dates</u>
University of South Dakota	Professor of Chemistry	9/71 -
	Professor of Chemistry and Director,	1/83 - 8/96

Office of Research (50% to 100%, 7/92)		
	Acting Chair, Department of Chemistry	8/86-8/87
	Associate Professor	6/65-8/71
	Assistant Professor	9/61-5/65
Oregon State University	Instructor of Chemistry	1/60-6/60

Complete List of Publications:

"The South Dakota Centers for Innovation, Technology, and Enterprise (CITE)" in "Linking Activities Between Higher Education and the Private Sector: Linkages in the USA and Mexico," M. Dolores Sanchez, Joan M. Claffey, Margarita Casteneda, eds., Asociacion Nacional de Universidades e Instituciones de Educacion Superior and the Association Lianson Office for University Cooperation in Development, publishers, 1996.

"Elementary Methods for the Calculation of Electrostatic Potentials in Ionic Crystals," Howard Coker, J. Phys. Chem., 87, 2512(1983).

"The Electronic Strain Polarizability Constants of the Alkali Halides," Howard Coker, J. Phys. Chem. Solids, 40, 1079(1979).

"Polarizability Changes on Ion Hydration," Howard Coker, J. Phys. Chem., 80, 2084(1976).

"Empirical Free-Ion Polarizabilities of the Alkali Metal, Alkaline Earth Metal and Halide Ions," Howard Coker, J. Phys. Chem., 80, 2078(1976).

"Infrared Spectra of $\text{CsCl}:\text{BH}_4^-$ Solid Solutions," W. C. Schutte and Howard Coker, J. Chem. Phys., 61, 2808(1974).

"New Electron-Excess Centers in KCl: Effect of O^{2-} and SO_4^{2-} Ions," G. Lehmann, E. H. Coker, and Allen B. Scott, J. Solid State Chem., 4, 243-9(1972).

"Infrared Spectra of the d_n -Borohydride Ions," E. Howard Coker and Douglas E. Hofer, J. Chem. Phys., 53, 1652(1970).

"Infrared Spectra of Borohydride Ions in Alkali Halide Single Crystals," E. Howard Coker and Douglas E. Hofer, J. Chem. Phys., 53, 2713-2719 (1968).

"Thermodynamics of M-Center Formation," A. B. Scott, E. H. Coker, and J. D.

Zahrt, J. Chem. Phys., 46, 791(1967).

"A Lead-Oxygen Species in Potassium Bromide and Potassium Chloride, E. H. Coker, D. D. Manske and D. E. Hofer, Proc. S. Dak. Acad. Sci., 44, 139(1965).

"Correlation of the Vibrational Frequencies of Borohydride Ion, E. H. Coker and Bruce H. Campbell, Proc. S. Dak. Acad. Sci., 44, 128(1965).

"The Vibrational Spectra of Sulfate Ions in Alkali Halide Crystals," J. C. Decius, E. H. Coker and G. L. Brena, Spectrochimica Acta, 19, 1281(1963).

"Stretching Vibration of Sulfate Ion in Potassium Chloride; Formation of $M^{++}SO_4^{--}$ Pairs," E. Howard Coker, J. C. Decius, and A. B. Scott, J. Chem. Phys., 35, 745(1961).

Unpublished Research Completed or in Progress:

Infrared Spectra of Bicarbonate Ions in Alkali Halide Crystals.

The Vibrational Stark Effect in MCO_3 Ion Pairs.

The Oxonium Ion in Potassium Iodide and Potassium Bromide.

Infrared Spectra of the d_n -Ammonium Ions in Cesium Iodide.

Professional Activities:

Professional Memberships:

American Association for the Advancement of Science

American Chemical Society

American Scientific Affiliation

National Association of State Universities and Land Grant Colleges

Member Council on Governmental Affairs and Commission
on Outreach and Technology Transfer

Sigma Xi

Offices Held:

Phi Beta Kappa, Alpha of South Dakota: Secretary Treasurer 1988-94

Sigma Xi Offices in USD Chapter: Program Chairman 1981-82,
President 1982-83

Papers at a regional or national meeting:

"A Model for Converting the Pick-Sloan System into a Sustainable System," Conference on Natural Resources of the Missouri River Basin, Columbia, Missouri, January 14-16, 1997.

"Isolation of the Oxonium Ion in an Alkali Halide Matrix" (with Timothy Ehler), 25th Midwest Regional ACS Meeting, Kansas State University, Manhattan, Kansas, November 7-9, 1990.

"Infrared Spectra of the d_n -ammonium ions" (with Timothy Ehler), 23rd Midwest Regional ACS Meeting, The University of Iowa, Iowa City, Iowa, November 16-18, 1988.

"The Infrared Spectrum of HCO_3^- in CsI" (with Kim Wessel), 23rd Midwest Regional ACS Meeting, The University of Iowa, Iowa City, Iowa, November 16-18, 1988.

"Infrared Spectrum and Normal Coordinate Analysis of the Bicarbonate Ion CsI Molecular Spectroscopy Symposium. The Ohio State University, June 1986.

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Blue Key

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References:

Dr. Royce C. Engstrom, Chemistry Department, University of South Dakota,
Dr. Harry G. Hecht, Professor of Physical Chemistry, South Dakota State University,
Brookings, SD 57007.
Dr. Christopher P. Sword, Graduate Dean and Director of Research, South Dakota State
University, Brookings, SD 57007.





UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

FACSIMILE FORM

DATE/TIME: 4/8/97 11:25am

PRIORITY: X Immediately
1 hour
2-4 hours

MESSAGE TO: Royce Engstrom
University of South Dakota

License No. 40-02331-19
Docket No. 030-15186
Control No. 466344

MESSAGE FROM: Jacqueline D. Cook
Health Physicist
Nuclear Materials Licensing Branch
U.S. NRC, Region IV

NUMBER OF PAGES: 1 PLUS TRANSMITTAL SHEET

TELECOPY NUMBER: (605) 677-5073

VERIFICATION NUMBER:

CONTACT:

SPECIAL INSTRUCTION/ ATTACHMENTS:

Mr. Engstrom,

Per our telephone conversation dated April 8, 1997, the item on the next page is a deficiency which requires your response. Please respond to this fax within 15 days. Our fax number is (817) 860-8263. If you have any questions regarding our discussion and this fax, please call me at (817) 860-8132. When responding to this fax, please include your license, docket and control numbers located at the top of this page. Thank you.

Jacqueline D. Cook
Jacqueline D. Cook
Health Physicist

TRANSMITTED & VERIFIED BY:

Jacqueline D. Cook

DISPOSITION

Return to Originator X
Place in Mail

Please respond to the following item as it pertains to your letter dated March 14, 1997:

- ✓. Resubmit the curriculum vitae which should include the training and experience of the proposed Radiation Safety Officer (RSO) in radiation protection and with radiation and radioactive materials.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

March 25, 1997

University of South Dakota
ATTN: Paul J. Olscamp
Interim President
414 E. Clark Street
Vermillion, South Dakota 57069-2390

SUBJECT: ACKNOWLEDGMENT OF REQUEST FOR LICENSING ACTION

REFERENCE: LETTER DATED MARCH 14, 1997

We have completed the administrative review and initial processing of your application.

During the initial processing, no omissions/deficiencies were identified. Please note that the technical review may identify additional omissions in the submitted information or technical issues that require additional information.

Amendment actions are normally processed within 60 days, unless the technical review identifies:

- Major technical deficiencies
- Decommissioning/decontamination activities are required before an application can be completed
- Confirmatory closeout surveys after decontamination/decommissioning activities are required before a license can be terminated or a facility removed from the license
- Policy issues are identified that require input and coordination with other NRC Regional offices, Agreement State offices, or NRC's Office of Nuclear Materials and Safeguards

A copy of your correspondence has been forwarded to our License Fee and Accounts Receivable Branch, Office of the Controller, who will contact you separately if the appropriate license fee has not been submitted for your request, or for billing if your request is subject to full cost recovery.

Any correspondence about this application should reference the Control number listed below.

Sincerely,

Original Signed By
Billie Gruszynski

Billie Gruszynski (Ms.)
Nuclear Materials Licensing Branch

License: 40-02331-19
Docket: 030-15186
Control: 466344

Enclosures:
As stated

MAR 25 1997

University of South Dakota

-3-

To receive a copy of this document, indicate in the box "C" - Copy without attachment/enclosure "E" - Copy with attachment/enclosure "N" - No Copy

OFFICE	RIV:NMLB	N					
NAME	BGruszynski	<i>Box</i>					
DATE	3/25/97						

Acceptance Review Check List



Action Type:

- ☐ New
☒ Amendment
☐ Renewal

Mail Control

No. 466344

Initials of
Individual
completing
Form

Date: 3/25/97

Administrative Exclusion Items

Requiring Return to Applicant:

- ☐ Current Guidance Not Used
☐ References in Application Not to Current Regulations
☐ All Attachments Referenced Are Not Included
☐ Signature Not on Application

OK

Technical Exclusion Items Requiring Technical Reviewer Time Estimates:

- ☐ Request for Expedited Handling for Radiation Safety/Business Concerns
☐ Request for Exemption to Specific Regulation(s)
☐ Change in Ownership Concerns
☐ Financial Assurance/DFP Required
☐ Decommissioning Plan Review
☐ Quality Management Plan
☐ Termination of License Requiring NRC Closeout Survey
☐ Bankruptcy Notification
☐ Approval of Long Term Storage/Alternative Form of Waste Disposal
☐ Facility Modifications Requiring Shielding Calculations
☐ Authorization to Possess and Use Large Quantities of Unsealed Materials
☐ HDR/Gamma Knife
☐ Major Increase In Authorized Users
☐ Approval Of Training Program
☐ Approval of Incineration of Radioactive Waste
☐ Authorization For Sealed Source or Device Requiring SSD Approval Review
☐ Environmental Assessment or Impact Statement Required
☐ Emergency Plan Contingency Plan Required
☐ Type A Broad Scope/Complex Research & Development Application

Reviewer: _____

Estimate of Time Needed:

- ☐ 30 Days ☐ 60 Days ☐ 90 Days ☐ Other

Comments:

(FOR LFMS USE)
INFORMATION FROM LTS

BETWEEN:

Licensee Fee Management Branch, ARM
and
Regional Licensing Sections

Program Code: 03611
Status Code: 0
Fee Category: EX 3L 1D
Exp. Date: 20040731
Fee Comments: 170.11(A)(4)
Decom Fin Assur Req: Y

1997 MAR 25 PM 1:31

LICENSE FEE TRANSMITTAL

A. REGION IV

1. APPLICATION ATTACHED

Applicant/Licensee: SOUTH DAKOTA, UNIVERSITY OF
Received Date: 970324
Docket No.: 3015186
Control No.: 466344
License No.: 40-02331-19
Action Type: Amendment

2. FEE ATTACHED

Amount: 4
Check No.: 4

3. COMMENTS

Signed
Date

Billie Gruszynski
3/24/97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered)

1. Fee Category and Amount: EX 3L 1D

FEE EXEMPT

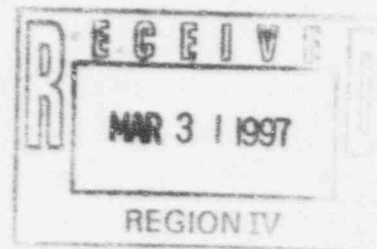
2. Correct Fee Paid ☒ Application may be processed for: 170.11(A)(4)

Amendment
Renewal
License

3. OTHER

Signed
Date

Rita Spesser
3/26/97



RECEIVED BY LFMS	
Date	<u>3/25/97</u>
Log	<u>Mar 3 IV</u>
By	<u>Rem</u>
Date Completed	<u>3/26/97</u>



UNIVERSITY of
SOUTH DAKOTA

414 EAST CLARK STREET ♦ VERMILLION SD 57069-2390

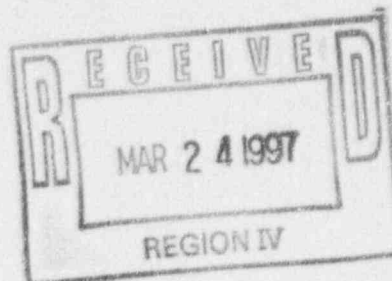
OFFICE OF THE PRESIDENT

(605) 677 - 5641

FAX (605) 677 - 6520

Paul J. Olscamp, Interim President

March 14, 1997



Mr. Jack Witten, Senior Health Physicist
Nuclear Materials Licensing Center, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Dear Mr. Witten:

This letter is written to notify your office of the appointment of Dr. E. Howard Coker to the position of Radiation Safety Officer for the University of South Dakota effective July 1, 1997. This appointment notification is for compliance with the United States Nuclear Regulatory Commission Materials License Number 40-02331-19 (Docket/Reference No. 030-15186) issued to the University of South Dakota. A copy of Dr. Coker's curriculum vitae is enclosed.

In addition to the change in the Radiation Safety Officer, I wish to report that on August 20, 1997, I (Paul Olscamp) was named Interim President for the University of South Dakota—to serve until June 30, 1997. Effective July 1, 1997, Mr. James W. Abbott will begin his duties as President of the University of South Dakota.

Sincerely,

Paul J. Olscamp
Interim President

RLK:wlf

enclosures

cc: James W. Abbott
Roger L. Kozak

E. HOWARD COKER

Curriculum Vitae

July 1996

Address:

Department of Chemistry
University of South Dakota
414 East Clark Street
Vermillion, SD 57069

Telephone:

Office: (605) 677-5487
(605) 677-6397 FAX
HCOKER@CHARLIE.USD.EDU

Home: (605) 624-4646

Social Security Number: 568-42-6448

Date of Birth: May 4, 1934

Rank and Title: Professor of Chemistry

Years at USD: 3

Education:

Institution	Area of Specialization	Degree	Year
Oregon State University	Physical Chemistry	Ph.D.	1963
University of California at Davis	Chemistry	B.A.	1956

Professional Experience:

Firm/Institution	Position/Title	Dates
University of South Dakota	Professor of Chemistry	9/71 - 8/96
	Professor of Chemistry and Director, Office of Research (50% to 100%, 7/92)	1/83 - 8/96

	Acting Chair, Department of Chemistry	8/86-8/87
	Associate Professor	6/65-8/71
	Assistant Professor	9/61-5/65
Oregon State University	Instructor of Chemistry	1/60-6/60

Complete List of Publications:

"The South Dakota Centers for Innovation, Technology, and Enterprise (CITE)" in "Linking Activities Between Higher Education and the Private Sector: Linkages in the USA and Mexico," M. Dolores Sanchez, Joan M. Claffey, Margarita Casteneda, eds., Asociacion Nacional de Universidades e Instituciones de Educacion Superior and the Association Lianson Office for University Cooperation in Development, publishers, 1996.

"Elementary Methods for the Calculation of Electrostatic Potentials in Ionic Crystals," Howard Coker, J. Phys. Chem., 87, 2512(1983).

"The Electronic Strain Polarizability Constants of the Alkali Halides," Howard Coker, J. Phys. Chem. Solids, 40, 1079(1979).

"Polarizability Changes on Ion Hydration," Howard Coker, J. Phys. Chem., 80, 2084(1976).

"Empirical Free-Ion Polarizabilities of the Alkali Metal, Alkaline Earth Metal and Halide Ions," Howard Coker, J. Phys. Chem., 80, 2078(1976).

"Infrared Spectra of $\text{CsCl}:\text{BH}_4^-$ Solid Solutions," W. C. Schutte and Howard Coker, J. Chem. Phys., 61, 2808(1974).

"New Electron-Excess Centers in KCl: Effect of O^{2-} and SO_4^{2-} Ions," G. Lehmann, E. H. Coker, and Allen B. Scott, J. Solid State Chem., 4, 243-9(1972).

"Infrared Spectra of the d_n -Borohydride Ions," E. Howard Coker and Douglas E. Hofer, J. Chem. Phys., 53, 1652(1970).

"Infrared Spectra of Borohydride Ions in Alkali Halide Single Crystals," E. Howard Coker and Douglas E. Hofer, J. Chem. Phys., 53, 2713-2719 (1968).

"Thermodynamics of M-Center Formation," A. B. Scott, E. H. Coker, and J. D. Zahrt, J. Chem. Phys., 46, 791(1967).

"A Lead-Oxygen Species in Potassium Bromide and Potassium Chloride, E. H. Coker, D. D. Manske and D. E. Hofer, Proc. S. Dak. Acad. Sci., 44, 132(1965).

"Correlation of the Vibrational Frequencies of Borohydride Ion, E. H. Coker and Bruce H. Campbell, Proc. S. Dak. Acad. Sci., 44, 128(1965).

"The Vibrational Spectra of Sulfate Ions in Alkali Halide Crystals," J. C. Decius, E. H. Coker and G. L. Brena, Spectrochimica Acta, 19, 1281(1963).

"Stretching Vibration of Sulfate Ion in Potassium Chloride; Formation of $M^{++}SO_4^{--}$ Pairs," E. Howard Coker, J. C. Decius, and A. B. Scott, J. Chem. Phys., 35, 745(1961).

Unpublished Research Completed or in Progress:

Infrared Spectra of Bicarbonate Ions in Alkali Halide Crystals.
The Vibrational Stark Effect in MCO_3 Ion Pairs.
The Oxonium Ion in Potassium Iodide and Potassium Bromide.
Infrared Spectra of the d_n -Ammonium Ions in Cesium Iodide.

Professional Activities:

Professional Memberships:

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American Chemical Society
American Scientific Affiliation
National Association of State Universities and Land Grant Colleges
Member Council on Governmental Affairs and Commission
on Outreach and Technology Transfer
Sigma Xi

Offices Held:

Phi Beta Kappa, Alpha of South Dakota: Secretary Treasurer 1988-94

Sigma Xi Offices in USD Chapter: Program Chairman 1981-82,
President 1982-83

Papers at a regional or national meeting:

"Isolation of the Oxonium Ion in an Alkali Halide Matrix" (with Timothy Ehler), 25th Midwest Regional ACS Meeting, Kansas State University, Manhattan, Kansas, November 7-9, 1990.

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