

ACCEPTANCE REVIEW MEMO (ARM)

Licensee: University of Idaho

License No.: 11-27382-01

Docket No.: 030-32323

Mail Control No.: 471419

Type of Action: Amend

Date of Requested Action: 06-27-07

Reviewer Assigned:

ARM reviewer(s): *Cook*

Response	Deficiencies Noted During Acceptance Review
	<ul style="list-style-type: none"> [] Open ended possession limits. Limit possession. Submit inventory. [] Submit copies of most recent leak test results. [] Add - delete IC license condition. Add IC paragraph in cover letter. [] Split license from cover letter. Add SUNSI marking to license. [] Ask the licensee if they have any type-amount of EPAct Material.

Reviewer's Initials: _____

Date: _____

- Yes No Unrestricted release Group 2 or >: Transfer memo to FCDB within 10 days.
- Yes No Decommissioning notification should be completed within 30 days.
- Yes No Termination request < 90 days from date of expiration
- Yes No Expedite (medical emergency, no RSO, location of use/storage not on license, RAM in possession not on license, other)
- Yes No TAR needed to complete action.

Branch Chief's and/or Sr. HP's Initials: _____

Date: _____

SUNSI Screening according to RIS 2005-31

Yes No **Non-Publicly Available, Sensitive** if any item below is checked

General guidance:

- _____ RAM = or > than Category 3 (Table 1, RIS 2005-31), use Unity Rule
- _____ Exact location of RAM (whether = or > than Category 3 or not)
- _____ Design of structure and/or equipment (site specific)
- _____ Information on nearby facilities
- _____ Detailed design drawings and/or performance information
- _____ Emergency planning and/or fire protection systems

Specific guidance for medical, industrial and academic (above Category 3):

- _____ RAM quantities and inventory
- _____ Manufacturer's name and model number of sealed sources & devices
- _____ Site drawings with exact location of RAM, description of facility
- _____ RAM security program information (locks, alarms, etc.)
- _____ Emergency Plan specifics (routes to/from RAM, response to security events)
- _____ Vulnerability/security assessment/accident-safety analysis/risk assess
- _____ Mailing lists related to security response

Branch Chief's and/or Sr. HP's Initials: *JAC*

Date: *7/10/07*

Pre-Licensing Screening

Applicant Information:

Control No. 471419

Name: University of Idaho	Type of Request: Amend Program Code(s):
Location: ID	License No.: 11-27382-01 Docket No.: 030-32323

STEP 1—Radioactive Materials and Quantities Requested:

Instructions for Step 1: Complete Step 1 for all applications. If all your responses in Step 1 are "No" then do not complete Step 2 (Screening Criteria). Sign and date the completed step-sheet and add it as the sensitive and non-publicly available OAR in ADAMS. If a "yes" response is indicated for any item in Step 1, also complete Step 2. If the type of use is subject to a Security Order or the requirements for increased controls, complete Step 3 (Item A or Item B) without delay.	Yes or No
A. The request is from a new applicant.	N
B. NUREG-1556, Volume 20, Section 4.9 indicates a licensing site visit is needed for the requested type of use, e.g., (1) Type A broad scope license, (2) panoramic irradiator containing > 10000 curies, (3) manufacturers or distributors using unsealed radioactive material or significant quantities of sealed material, (4) radioactive waste brokers, (5) radioactive waste incinerators, (6) commercial nuclear laundries, and (7) any other application that in the judgement of the reviewer and cognizant supervisor involves complex technical issues, complex safety questions, or unprecedented issues that warrant a site visit.	N
C. The applicant requested certain radionuclides and quantities that equal or exceed the Risk Significant Quantity (TBq) values in the table, below, that have been "highlighted" by the reviewer	N

Table of Risk Significant Quantities

(Category 2 Quantities, IAEA Safety Guide No. RS-G-1.9, Categorization of Radioactive Sources, August 2005)

Radionuclide	Risk Significant Quantity (TBq ¹)	Risk Significant Quantity (Ci ¹)	Radionuclide	Risk Significant Quantity (TBq ¹)	Risk Significant Quantity (Ci ¹)
Am-241	0.6	16	Pm-147	400	11,000
Am-241/Be	0.6	16	Pu-238	0.6	16
Cf-252	0.2	5.4	Pu-239/Be	0.6	16
Cm-244	0.5	14	Ra-226 ²	0.4	11
Co-60	0.3	8.1	Se-75	2	54
Cs-137	1	27	Sr-90 (Y-90)	10	270
Gd-153	10	270	Tm-170	200	5,400
Ir-192	0.8	22	Yb-169	3	81

¹ The primary values are TBq. The curie (Ci) values are for informational purposes only.
² The Atomic Energy Act, as amended by the Energy Policy Act of 2005, authorizes NRC to regulate Ra-226 and NRC is in the process of amending its regulations for discrete sources of Ra-226.

Calculations of the Total Activity or the Unity Rule are attached to document whether or not the screening criteria in Step 2 were also completed to evaluate the application. NOTE—If an amendment of an existing license is being requested, the calculations will include the previously authorized quantities for the radionuclide(s).	Yes, No, or Not Applicable (NA)
Total Activity—multiple activities are requested for a single radionuclide and the sum of the activities equals or exceeds the quantity of concern for the radionuclide	
Unity Rule—multiple radionuclides are requested and the sum of the ratios equals or exceeds unity, e.g., [(total activity for radionuclide A) ÷ (risk significant quantity for radionuclide A)] + [(total activity for radionuclide B) ÷ (risk significant quantity for radionuclide B)] ≥ 1.0.	

Signature and Date for Step 1:

Stephanie D. Cook 7/20/07
 License Reviewer and Date

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JUN 29 2007

DNMS



University of Idaho

Environmental Health and Safety
1108 West Sixth Street
P.O. Box 442030
Moscow, Idaho 83844-2030
208-885-6524
Fax 208-885-5969

June 27, 2007

Mr. Roberto J. Torres
Senior Health Physicist
U.S. Nuclear Regulatory Commission, Region IV
Division of Nuclear Materials Safety
Nuclear Materials Licensing Branch
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

RE: Amendment Request - License No. 11-27382-01: Change in Chairperson of the
Radiation Safety Committee

Dear Mr. Torres:

The University of Idaho is submitting a request to change the chairperson of the Radiation Safety Committee for our radioactive materials license number 11-27382-01.

The proposed chairperson is Dr. Karl Rink, associate professor of mechanical engineering, and his qualifications are attached.

If you have any questions concerning this request, please do not hesitate to contact me at (208) 885-7208 or at fhutch@uidaho.edu.

Thank you for your time and effort in this matter.

Sincerely,

Fred H Hutchison

Fred Hutchison
Director/Radiation Safety Officer

Attachment

CURRICULUM VITAE

University of Idaho

NAME: Rink, Karl K.

DATE: June 19, 2007

RANK OR TITLE: Associate Professor of Mechanical Engineering

DEPARTMENT: Mechanical Engineering

OFFICE LOCATION AND CAMPUS ZIP: EP 324K, 0902

OFFICE PHONE: (208) 885-9447

FAX: (208) 885-9031

EMAIL: karlrink@uidaho.edu

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D., Mechanical Engineering, University of Utah, Salt Lake City, Utah, 1994

M.S., Engineering, Purdue University, West Lafayette, Indiana, 1986

B.S., Aerospace Engineering and Mechanics, University of Minnesota, Minneapolis, Minnesota, 1983

EXPERIENCE:

Teaching and Research Appointments:

August 2001- June 2007, Assistant Professor of Mechanical Engineering, University of Idaho.

June 2007-present, Associate Professor of Mechanical Engineering, University of Idaho.

Non-Academic Employment:

Manager, Compressed Gas Research, Autoliv ASP, Ogden, Utah, August 1997-August 2001

Staff Scientist, Autoliv ASP, Ogden, Utah, December 1996-August 1997

Senior Engineer, Morton International ASP, Ogden, Utah, January 1994-December 1996

Staff Design Engineer, Solar Turbines Incorporated, San Diego, California, January 1987-January 1989

Consulting:

United States Navy: bridge-wire initiators, impulse cartridges, and gas generators, 2006

United States Air Force, bridge-wire initiators and impulse cartridges, 2005

Takata Inflation Systems Incorporated, automotive airbag inflation systems, 2003-06

Autoliv Automotive Safety Products, automotive airbag inflation systems, 2001-03

Chartech Incorporated, expert witness, radioisotope leak detection system applications, 2001-02

Morton International Automotive Safety Products, automotive airbag inflation systems, 1992-93

Solar Turbines Incorporated, industrial gas turbines, 1989-91

TEACHING:

Courses Taught:

University of Idaho:

ENGR 320 Engineering Thermodynamics and Heat Transfer*

ME 313 Dynamic Modeling of Engineering Systems

ME 345: Heat Transfer*

ME 424: Mechanical Systems Design I: Senior Capstone Design, co-instructor

ME 426: Mechanical Systems Design II: Senior Capstone Design, co-instructor

ME 404: Combustion in Propulsion Systems

ME 404: Selected Topics in Energetic Materials

ME 502: Combustion Reactor Modeling I

ME 502: Combustion Reactor Modeling II

ME 502: Leak Rate Analysis and Modeling

ME 504: Lean Manufacturing, co-instructor

ME 540: Continuum Mechanics

RADIOACTIVE MATERIALS TRAINING AND EXPERIENCE:

My experience I using radioactive materials began in January 1997 when I was trained by my former employer (Autoliv Automotive Safety Products, Ogden, Utah) as the company's Cognizant Engineer for the Radiflo® process. The Radiflo® system uses a dilute mixture of ⁸⁵Kr and air to enable leak detection of automotive initiators, microelectronic components, and other physically small devices. As Autoliv's Cognizant Engineer, I was responsible for the training and supervision of operators, as well as the maintenance of training, service, and daily operation records. As Director of Research, I personally approved and supervised all "non-standard" test procedures and applications, directed the development of new leak detection apparatuses and equipment using ⁸⁵Kr, and developed and installed advanced radiation detection software. While at Autoliv ASP, I oversaw the purchase and application of three Radiflo® Mark V leak detection systems, and led the design, fabrication, and testing of a unique high-pressure ⁸⁵Kr leak detection apparatus. In 2001, I resigned from my position at Autoliv to become an Assistant Professor at the University of Idaho. Since many of my research interests at the University involve application of the Radiflo® process, I was trained as an Authorized User in 2002 and subsequently commissioned a Radiflo® Mark V leak detection system at the University. I also served as a member of the University of Idaho Radiation Safety Committee since 2002.

Autoliv Automotive Safety Products: Radiflo® cognizant engineer 1997-2001
 Autoliv Automotive Safety Products: Radiflo® cognizant engineer refresher course: 1997
 Autoliv Automotive Safety Products: Radiflo® cognizant engineer refresher course: 1999
 Autoliv Automotive Safety Products: Radiflo® cognizant engineer refresher course: 2001
 University of Idaho: radiation safety orientation, 2002
 University of Idaho, radiation safety training course, 2002
 University of Idaho, member, radiation safety committee, 2002-2007

PROFESSIONAL AND SCHOLARLY ORGANIZATIONS:

American Institute of Astronautics and Aeronautics (AIAA), member, 1983-present
 American Institute of Astronautics and Aeronautics, nominated for Associate Fellow Status, August 2006
 American Society of Mechanical Engineers (ASME), member, 1994-present
 The Combustion Institute, member, 1995-present
 International Pyrotechnics Society, member, 2003-present
 Vice Chair:
 Energetic Components and Systems Technical Committee, American Institute of Aeronautics and
 Astronautics (AIAA), 2006 – 2007.
 Chair – elect:
 Energetic Components and Systems Technical Committee, American Institute of Aeronautics
 Astronautics (AIAA), 2008 – 2010.

RELEVANT PATENTS:

Detection Systems and Methods, U.S. Patent 6,530,264, March 11, 2003.
 Method of Introducing a Leak Trace Material into an Airbag Inflator, U.S. Patent 6,233,908 May 22, 2001.

HONORS AND AWARDS:

Purdue University Outstanding Mechanical Engineer, 2000

June 10 2007

DATE

This is to acknowledge the receipt of your letter/application dated 6-27-07, and to inform you that the initial processing, which includes an administrative review, has been performed.

There were no administrative omissions. Your application will be assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card:

The action you requested is normally processed within 90 days.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 471419.
When calling to inquire about this action, please refer to this mail control number.
You may call me at 817-860-8103.

Sincerely,



Licensing Assistant

Mr. Roberto J. Torres
Senior Health Physicist
U.S. Nuclear Regulatory Commission, Region IV
Division of Nuclear Materials Safety
Nuclear Materials Licensing Branch
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

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JUN 29 2007

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11-27382-01

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