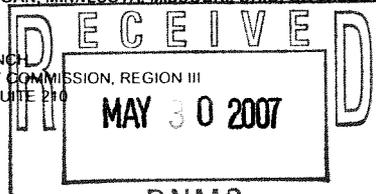


**APPLICATION FOR MATERIAL LICENSE**

**INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.**

**APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:**  
 DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
 OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
 U.S. NUCLEAR REGULATORY COMMISSION  
 WASHINGTON, DC 20555-0001

**IF YOU ARE LOCATED IN:**  
 ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:



MATERIALS LICENSING BRANCH  
 U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
 2443 WARRENVILLE ROAD, SUITE 210  
 LISLE, IL 60532-4352

**ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:**

**IF YOU ARE LOCATED IN:**

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
 U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
 611 RYAN PLAZA DRIVE, SUITE 400  
 ARLINGTON, TX 76011-4005

LICENSING ASSISTANCE TEAM  
 DIVISION OF NUCLEAR MATERIALS SAFETY  
 U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
 475 ALLENDALE ROAD  
 KING OF PRUSSIA, PA 19406-1415

**PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.**

1. THIS IS AN APPLICATION FOR (Check appropriate item) 2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER
- C. RENEWAL OF LICENSE NUMBER 30-27565-01

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED  
APPLIED RESEARCH ASSOCIATES  
BUILDING 20749  
KIRTLAND AFB, NEW MEXICO

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION  
JOHN M. HOSTAK

TELEPHONE NUMBER  
(505) 846-8600

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

- 5. RADIOACTIVE MATERIAL  
 a. Element and mass number, b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.
- 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.
- 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.
- 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.
- 9. FACILITIES AND EQUIPMENT.
- 10. RADIATION SAFETY PROGRAM.
- 11. WASTE MANAGEMENT.
- 12. LICENSE FEES (See 10 CFR 170 and Section 170.31)  
 FEE CATEGORY 3P AMOUNT ENCLOSED \$ N/A

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE JOHN M. HOSTAK, SEHM SIGNATURE DATE 5/24/07

**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	<u>471393</u>

NRC License Number 30-27565-01 Renewal Application Data

3. Applied Research Associates facilities located at Building 20749, Kirtland AFB, New Mexico

Temporary job sites anywhere in the United States where the US NRC maintains jurisdiction for regulating licensed materials, including areas of exclusive Federal jurisdiction within Agreement States

4. John M. Hostak, Radiation Safety Officer; PO Box. 5388, Albuquerque, NM 87185;  
(505) 846-8600, [john.hostak@ara.com](mailto:john.hostak@ara.com)

5. Radioactive Material:

- A. Cesium 137 Sealed gamma sources registered with NRC under 10 CFR 32.210 and incorporated in a compatible gauging device as specified in number 6 of this application

No single source to exceed the maximum activity specified in the certificate of registration issued by NRC (370 MBq, 10 mCi)

- B. Americium 241:Be Sealed neutron sources registered with NRC under 10 CFR 32.210 and incorporated in a compatible gauging device as specified in number 6 of this application

No single source to exceed the maximum activity specified in the certificate of registration issued by NRC (1.85 GBq, 50 mCi)

6. Purpose for Use of Sources A and B:

To be used for measuring physical properties of materials in compatible Boart Longyear Company (formerly: Campbell Pacific Nuclear Company) and Troxler Electronic Laboratories, Inc., gauging devices that have been registered with NRC under 10 CFR 32.210 or with an agreement State and have been distributed in accordance with an NRC or Agreement State specific license authorizing distribution to persons specifically authorized by an NRC license to receive, possess and use the devices.

7. Person Responsible for Radiation Safety Program:

Radiation Safety Officer: John M. Hostak, formal title: Safety and Environmental Health Manager

Education: MS Nuclear Engineering (Radiation Protection Concentration), 1995

Related Training: Radiological Safety for Nuclear Moisture Density Gauge, NMDOT TTCP, January 19 - 20, 2006 (16 hrs)

Sandia National Laboratories: "RAD 101 Radiation Workers Safety Training", Sept. 24, 1991; "RAD 210 Radiological Worker Training Core Academics," Jan 11-12, 1995; "RAD 220 Radiological Worker

Training High Radiation Safety," Jan 12, 1995; "RAD 230 Radiological Worker Training Contamination Control," Jan 13, 1995

US Air Force: "Nuclear Hazards Training Course," August 27, 1993 (32 hrs.);

US Air Force "Senior Officers' Nuclear Accident Course," August 26, 1994 (24 hrs)

US Department of Energy: "First Responders Radiological Transportation Emergencies Course," July 1993

8. Training:

As described in application dated June 4, 1997

Radiological Safety for Nuclear Moisture Density Gauge, NMDOT TTCP,

Troxler NMDG Operator's Training

Annual Refresher Radiation Safety Training provided by John M. Hostak, RSO in 2006 and 2007

9. Facilities and Equipment:

Gauges stored in outerlocked containers within a locked transportainer, located on a secure fenced facility campus on a US Department of Defense installation until used. Gauges are physically inspected within the container a minimum of once each six months. Access controlled by key issued temporarily to operator by RSO.

10. Radiation Safety Program includes RSO supervision, periodic leak testing for external analysis, general radiation awareness training, annual operator radiation safety training, external dose monitoring via personal dosimetry (TLDs) for all employees authorized to transport, use, or supervise use of the gauge as a best management practice, external field measurement with a gamma survey instrument as needed for storage and transportation. Devices under direct custody of operator at all times. RSO also administers facility and gauge-specific emergency action plans. General radiation safety oversight also provided by client Defense Threat Reduction Agency and Host Site: USAF 377 Air Base Wing to meet all DoD standards for storage, security, and use.

11. Waste Management: Not applicable for operating devices that produce no wastes and are not in need of disposition.

12. Renewal Fee Category 3P, fee not applicable. Licensee pays annual fee administered by NRC.

# ACCEPTANCE REVIEW MEMO (ARM)

**Licensee:** Applied Research Associates, Inc      **License No.:** 30-27565-01  
**Docket No.:** 030-34489      **Mail Control No.:** 471393  
**Type of Action:** Renewal      **Date of Requested Action:** 05-24-07  
**Reviewer Assigned:** Jackie      **ARM reviewer(s):** Cook

Response	Deficiencies Noted During Acceptance Review
	[X] 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 EPA Act Material.
8/10/07	Resubmit IAW NUREG 1556 Vol 1, Rev 1.

**Reviewer's Initials:** JAC      **Date:** 8/10/07

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:** 6/8/07

## Pre-Licensing Screening

### Applicant Information:

Control No. 471393

Name: Applied Research Associates, Inc	Type of Request: Renewal Program Code(s):
Location: NM	License No.: 30-27565-01      Docket No.: 030-34489

### STEP 1—Radioactive Materials and Quantities Requested:

<b>Instructions for Step 1: Complete Step 1 for all applications.</b> 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

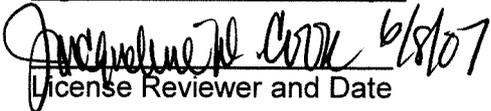
(Category 2 Quantities, IAEA Safety Guide No. RS-G-1.9, Categorization of Radioactive Sources, August 2005)

Radionuclide	Risk Significant Quantity (TBq <sup>1</sup> )	Risk Significant Quantity (Ci <sup>1</sup> )	Radionuclide	Risk Significant Quantity (TBq <sup>1</sup> )	Risk Significant Quantity (Ci <sup>1</sup> )
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 <sup>2</sup>	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

<sup>1</sup> The primary values are TBq. The curie (Ci) values are for informational purposes only.  
<sup>2</sup> 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. <b>NOTE—If an amendment of an existing license is being requested, the calculations will include the previously authorized quantities for the radionuclide(s).</b>	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:

  
 License Reviewer and Date 6/8/07



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064 4005

June 22, 2007

Applied Research Associates, Inc.  
ATTN: John M. Hostak  
Radiation Safety Officer  
P.O. Box 5388  
Albuquerque, New Mexico 87185

SUBJECT: DEEMED TIMELY LETTER

We acknowledge receipt of your application dated May 24, 2007, requesting your byproduct materials license be renewed. Your application is deemed timely filed and, accordingly, the license will not expire until final action has been taken by this office.

We have completed a preliminary review of your submittal. This review was cursory in nature and should not be considered a complete technical review. A complete technical review of the submitted information will be conducted within 180 days.

Any correspondence regarding this application should reference the identifying numbers specified below. If you have questions or require clarification on any of the information stated above, we encourage you to contact us at (817) 860-8103. Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Colleen Murnahan".

Colleen Murnahan  
Licensing Assistant  
Nuclear Materials Licensing Branch

Docket: 030-34489  
License: 30-27565-01  
Control: 471393

: (FOR LFMS USE)  
: INFORMATION FROM LTS  
: -----  
:  
: Program Code: 03121  
: Status Code: 0  
: Fee Category: 3P  
: Exp. Date: 20070630  
: Fee Comments:  
: Decom Fin Assur Reqd: N  
: .....

BETWEEN:  
  
License Fee Management Branch, ARM  
and  
Regional Licensing Sections

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: APPLIED RESEARCH ASSOCIATES, INC.  
Received Date: 20070530  
Docket No: 3034489  
Control No.: 471393  
License No.: 30-27565-01  
Action Type: Renewal

2. FEE ATTACHED

Amount: \_\_\_\_\_  
Check No.:       /      

3. COMMENTS

Signed Colleen Murnahan  
Date 6-08-07

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

1. Fee Category and Amount: \_\_\_\_\_

2. Correct Fee Paid. Application may be processed for:

Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

3. OTHER \_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_  
Date \_\_\_\_\_