



CONVERSATION RECORD

08/22/2013

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU Gregory P. Crouch, M.S., M.P.H., Radiation Safety Officer (RSO)		DATE OF CONTACT 08/22/2013	TYPE OF CONVERSATION <input type="checkbox"/> E-MAIL <input checked="" type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING
E-MAIL ADDRESS gcrouch@iu.edu		TELEPHONE NUMBER (812) 855-3230	

ORGANIZATION Indiana University	DOCKET NUMBER(S) 030-00692
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LICENSE NUMBER(S) 13-00108-05	CONTROL NUMBER(S) 580149
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SUBJECT  
Our review of your license renewal application dated March 4, 2013

SUMMARY

We have reviewed your renewal application and find that we are unable to continue this action until we have received additional information outlined on pages 2-3 of this conversation record.

Direct any questions you have to me at (630) 829-9892 or sara.forster@nrc.gov.

Submit requested information within 12 days of this record, referencing Control No. 580149, as listed at the top of this memo. Please FAX your response to my attention at (630) 515-1078. You may also scan your response and send to me via email, as a pdf file. Include a signed and dated cover letter with your response.

As discussed, we expect to receive your written response on or before close of business on September 3, 2013. If you are able to respond to some but not all items by August 29, 2013 (7 days from the date of this record), this is strongly encouraged and preferred.

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ACTION REQUIRED (IF ANY)

We have requested that the licensee provide additional information as follows:

- Locations of use information including street addresses and campus maps; also areas to be removed or no longer to be added
- Materials information including explanation of "solid source" and moisture gauge manufacturer/model information
- Initial approval criteria for principal investigators, gauge operators, and irradiator operators, as noted
- Facility diagrams/details for one sample lab, two waste areas, and irradiator facility, as noted
- Laboratory modification criteria and confirmation of RSO review requirement
- Package receipt process, occupational dosimetry evaluation statement, and radionuclide-specific safe use criteria, as noted
- Decay-in-storage and sanitary sewerage waste statements

You also indicated you would submit revised organizational information, which we anticipate receiving with this response.

NAME OF PERSON DOCUMENTING CONVERSATION  
Sara A.B. Forster, Materials Licensing Branch, Region III Office, 2443 Warrenville Road, Suite 210, Lisle, Illinois 60532

SIGNATURE  
*Sara A.B. Forster* 8/22/2013

## CONVERSATION RECORD (continued)

SUMMARY: (Continued from page 1)

G. Crouch, M.S., M.P.H.

1. The March 4, 2013, application listed the licensee as Indiana University - Bloomington. However, the most recent license amendment lists the licensee as Indiana University. As we discussed by phone, the licensee name will remain as Indiana University on the renewal amendment. No written response is required for this item.
2. The March 4, 2013, application included Indiana University - Bloomington campus and Indiana University - South Bend campus, but did not list a street address for these locations of use. Please indicate a street address for each location of use, and attach general campus maps highlighting buildings where radioactive materials use is currently approved or may be approved in the future. As we discussed by phone detailed diagrams need not be included with your response.
3. As discussed, regarding references to the Indiana University - Columbus campus, please provide written confirmation that you no longer wish to add this location of use to this license, NRC License No. 13-00108-05.
4. The March 4, 2013, application omitted the Cardwell, Montana field station from the list of locations of use. Please provide a written confirmation that this location should be removed from the license. Include final materials disposition for any gauges stored at this location. For all materials stored at this location, include:
  - i. History of radioactive materials use, by isotope, for that area. Include the last date(s) on which the isotope was used, possessed, transferred, and disposed.
  - ii. Confirmation that all radioactive materials have been transferred to an authorized recipient. For materials transferred or otherwise disposed of, provide the license number and contact information for each facility where the material was transferred. Attach receipt confirmation by the recipient materials licensee. Confirmation should include leak tests or other verification that the transferred source was not leaking.
5. We have noted that the March 4, 2013, letter, attached to the March 4, 2013, application, lists the Radiation Safety Officer as Gregory P. Crouch, M.P.H., M.S. As discussed, note that the suffixes, "M.P.H." and "M.S." will be added to the license. No additional information is required for this item.
6. On page 1 of the March 4, 2013, application, Items C. through G. indicate the chemical/physical form as either "solid source," or as "sealed, plated, or solid source." Please indicate what is meant by solid source (e.g. - for cobalt-57, the source is actually a Mossbauer standard sealed or plated source), and confirm that no dispersal of material is anticipated for the listed solid source authorizations.
7. For the cesium-137 (Cs-137) and americium-241 (Am-241) sealed source authorizations, listed on page 2 of the March 4, 2013, application, Items O. and P., indicate the manufacturer and model number for each source and/or device to be authorized. Include the maximum total number of gauges that may be possessed and the maximum activity per source and/or device.
8. For approval of Principal Investigators, etc., please indicate what is required for an individual's approval. For example, is a Bachelor's Degree or higher required? What other criteria are considered, such as radionuclide-specific training and experience when determining which isotopes and what quantities of material an AU is authorized to receive, use, possess, or store?
9. Indicate whether moisture gauge operators are required to complete a 40-hour training course prior to independently using the device, or otherwise describe the required training program including hands-on review with the Radiation Safety Officer and any in-the-field training under the supervision of an approved investigator or senior field person.
10. In our conversation, you noted that access to the irradiator is limited to the Radiation Safety Officer and staff, and that no irradiator operators are approved under this license. Please provide written confirmation of requirements for irradiator use. In the alternative, you may provide the statement: "Before using licensed material, authorized users will receive the training described in Appendix G in NUREG-1556, Vol. 5, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Self-Shielded Irradiator Licenses,' dated June 1998." Guidance on training for irradiator use may be found in NUREG 1556, Vol. 5, found at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v5/>.

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## CONVERSATION RECORD (continued)

## SUMMARY (Continued from page 2)

G. Crouch, M.S., M.P.H.

11. As we discussed, please provide facility diagrams for the irradiator facility, for each of the two waste rooms, and for one sample research laboratory. Include room numbers and dimensions for each area. Diagrams should show safety and security related facility details only, including locations of any access doors (including locks or card reader entries), sinks, waste areas, and exhaust hoods. Note access control to the referenced areas and outline uses of adjacent rooms/corridors - including above and below - the sample lab, irradiator, and waste areas. Diagrams may be hand drawn if preferred and should be free of superfluous architectural markings.
12. In our conversation, we confirmed that C-14 field studies or animal housing facilities apply to this license. No response is required for this item.
13. In our conversation, you indicated that any significant modifications to existing approved radioactive materials use areas must be reviewed and approved by the Radiation Safety Officer and staff. Please provide a written confirmation of this review process.
14. In our phone conversation, you noted that the security of incoming packages is assured by allowing packages to be received only during business hours by trained individuals who promptly alert the Radiation Safety staff of package arrival. You indicated that, in the event the Radiation Safety staff is unavailable to accept the package immediately, the receiving staff members are trained to store the packages in a locked cabinet. Please provide a written confirmation of this process for assuring the security of incoming radioactive materials shipments.
15. As we discussed, if no occupational dosimetry required, include statement: "we have done a prospective evaluation and determined that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10 CFR Part 20."
16. The licensee must develop procedures for the Safe Use of Radionuclides, for the use of any unsealed materials. In our phone conversation, we discussed your use of radionuclide-specific procedures in place such as those outlined in NUREG 1556, Vol. 11, Appendix R, found at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v11/>. Please, confirm in writing that additional radionuclide-specific procedures will be implemented in the case of high volatility or other special-risk radioisotopes. In the alternative, you may state, "We will adopt the procedures for the safe use of radionuclides and emergencies as published in NUREG 1556, Vol. 11, Appendix R."
17. As we discussed, in accordance with NUREG 1556, Volume 11, please state that: "Any Decay-in-Storage (DIS) & Extended Interim Storage, waste will be disposed in accordance with NUREG 1556, Volume 11, Appendix V." Also state that: "Any disposal of radioactive sanitary sewerage waste, meeting the criteria in 10 CFR 20.2003, will be disposed in accordance with the model procedure described in NUREG 1556, Volume 11, Appendix V." In the alternative, you may include comparable alternative DIS and/or sanitary sewerage disposal procedures.
18. In our conversation, we confirmed that no incineration or other waste volume reductions apply to this license. No response is required for this item.
19. You noted that management oversight information may be found in the March 4, 2013, application. However, you indicated that a revised organizational chart is now available. We anticipate receiving the revised oversight information with your response.

**Forster, Sara**

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**From:** Forster, Sara  
**Sent:** Thursday, August 22, 2013 11:26 AM  
**To:** 'gcrouch@iu.edu'  
**Subject:** Additional Information Request for Indiana University, NRC Lic. No. 13-00108-05  
**Attachments:** 01110.580149.13-00108-05 telecon signed.pdf

Dear Mr. Crouch:

See the attached file for additional information needed to complete the review of the renewal application for NRC Lic. No. 13-00108-05. Note that the attached phone conversation record requests additional information on or before close of business on September 3, 2013. However, a response by August 29, 2013, is preferred. Additional guidance may be found in, NUREG 1556, Vol. 11, "Program-Specific Guidance About Licenses of Broad Scope," which may be found at:

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v11/>

Submission of your response as a pdf file attached to an email or via facsimile will allow for the quickest processing. Do not hesitate to call me with any questions you may have.

Sincerely,  
Sara A. B. Forster, Health Physicist Licensing Reviewer  
U.S. Nuclear Regulatory Commission - Region III  
Division of Nuclear Materials Safety  
2443 Warrenville Rd. - Ste. 210  
Lisle, IL 60532-4352  
[sara.forster@nrc.gov](mailto:sara.forster@nrc.gov)  
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