



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

DEC 10 2014

John B. Young, Jr.
President/RSO
Industrial Maintenance Engineering, Inc.
d/b/a AIS Gauging
5350 North 13th Street
Terre Haute, IN 47805-1615

Dear Mr. Young:

Enclosed is Amendment No. 13 to your NRC Material License No. 13-32049-01 in accordance with your request. Please note that the changes made to your license are printed in **bold** font.

Please note that this amendment authorizes you to analyze leak test samples as requested in your September 22, 2014, application. However, as we discussed during our December 9, 2014, telephone conversation, we have not authorized the possession of byproduct material for the purpose of conducting research and development on gauging devices, or non-routine maintenance of gauges at this time.

In order to receive authorization for research and development and non-routine maintenance of gauging devices, you will need to provide more detail and description regarding these proposed activities so that we can better understand and effectively evaluate the potential radiological issues.

At a minimum you will need to address the items described in the two topics below in order for us to continue our review of your request.

I. Possession of Additional Byproduct Material for Research and Development

Clearly specify and describe the purpose for which each isotope will be used. The description must be as detailed as possible in order to allow the NRC to determine the potential for exposure to radiation and radioactive materials, to those working with radioactive materials and members of the public. It is not clear if and how sources will be handled, whether sources will be removed from their source holders, how will they be safely and securely stored, if and how calibrated survey meters will be utilized during research projects, whether research will entail manipulating or modifying safety features on gauging devices, etc.

Please include detailed descriptions of the extent to which sealed sources will be handled and manipulated, and facilities and safety-related equipment that be utilized during the research. Identify those individuals who will be named on the license as authorized users and provide specific detail on the training and experience that each has received in conducting the research and development that you are requesting,

specifically as it relates to the handling of sealed sources and the modification of safety features of gauges.

You must also provide the make and model numbers of each source that you want listed on your license. Also provide a copy of all relevant operating and emergency procedures that will be implemented when conducting research and development involving sealed sources.

II. Non-routine Maintenance of Gauges

Please refer to Appendix P of NUREG-1556, Volume 18 for information that you will need to submit in order for us to continue our review of your request for this activity. A copy of Appendix P is enclosed for your review. This document is also available on the Internet at the following address: <http://www.nrc.gov>.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

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, or 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. Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

The NRC's Safety Culture Policy Statement became effective in June 2011. While a policy statement and not a regulation, it sets forth the agency's *expectations* for individuals and organizations to establish and maintain a positive safety culture. You can access the policy statement and supporting material that may benefit your organization on NRC's safety culture Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/safety-culture.html>. We strongly encourage you to review this material and adapt it to your particular needs in order to develop and maintain a positive safety culture as you engage in NRC-regulated activities.

J. Young

In accordance with 10 Code of Federal Regulations 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Please feel free to contact me at (630) 829-9854 if you have any questions.

Sincerely,



Kevin G. Null
Sr. Health Physicist
Materials Licensing Branch

License No. 13-32049-01
Docket No. 030-34598

Enclosure:

1. Amendment No. 13
2. Appendix P to NUREG-1556, volume 18

Information Needed to Support Applicant's Request to Perform Non-Routine Maintenance Checklist

Applicants should review the section in this document on "Maintenance," which discusses, in general, licensee responsibilities before any maintenance or repair is performed.

Non-routine operations include installation of the sealed source/device, initial radiation survey, repair or maintenance involving or potentially affecting components, including electronics, related to the radiological safety (e.g., the source, source holder, source drive mechanism, shutter, shutter control, or shielding), relocation, replacement, and disposal of sealed sources, alignment, removal of a sealed source/device from service, and any other activities during which personnel could receive radiation doses exceeding NRC limits.

Any non-manufacturer/non-distributor supplied replacement components or parts, or the use of materials (e.g., lubricants) other than those specified or recommended by the manufacturer or distributor need to be evaluated to ensure that they do not degrade the engineering safety analysis performed and accepted as part of the device registration. Licensees also need to ensure that, after maintenance or repair is completed, the sealed source/device is tested and functions as designed, before the unit is returned to routine use.

If non-routine operations are not performed properly with attention to good radiation safety principles, the sealed source/device may not operate as designed and personnel performing these tasks could receive radiation doses exceeding NRC limits.

Thus, applicants wishing to perform non-routine operations must use personnel with special training and follow appropriate procedures consistent with the manufacturer's or distributor's instructions and recommendations that address radiation safety concerns (e.g., use of radiation survey meter, shielded container for the source, and personnel dosimetry (if required)). Accordingly, provide the following information.

Describe the types of work, maintenance, cleaning, or repair that involve:

- Installation, relocation, or alignment of the sealed source/device;
- Components, including electronics, related to the radiological safety of the gauge (e.g., the source, source holder, source drive mechanism, shutter, shutter control, or shielding);
- Replacement and disposal of sealed sources;
- Removal of a sealed source/device from service;
- A potential for any portion of the body to come into contact with the primary radiation beam;
or
- Any other activity during which personnel could receive radiation doses exceeding NRC limits.

APPENDIX P

The principal reason for obtaining this information is to assist in the evaluation of the qualifications of individuals who will conduct the work and the radiation safety procedures they will follow.

- Identify who will perform non-routine operations and their training and experience. Acceptable training would include manufacturer's or distributor's courses for non-routine operations or equivalent.
- Submit procedures for non-routine operations. These procedures should ensure the following:
 - Doses to personnel and members of the public are within regulatory limits and ALARA (e.g., use of shielded containers or shielding);
 - The source is secured against unauthorized removal or access or under constant surveillance;
 - Appropriate labels and signs are used;
 - Manufacturer's or distributor's instructions and recommendations are followed;
 - Any non-manufacturer/non-distributor supplied replacement components or parts, or the use of materials (e.g., lubricants) other than those specified or recommended by the manufacturer or distributor are evaluated to ensure that they do not degrade the engineering safety analysis performed and accepted as part of the device registration; and
 - Before being returned to routine use, the sealed source/device is tested to verify that it functions as designed and source integrity is not compromised.
- Confirm that individuals performing non-routine operations will wear both whole body and extremity monitoring devices or perform a prospective evaluation demonstrating that unmonitored individuals performing non-routine operations are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits.
- Verify possession of at least one survey instrument that meets the criteria in "Radiation Safety Program – Instruments in NUREG-1556, Vol. 18, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Service Provider Licenses,' dated November 2000."
- Describe steps to be taken to ensure that radiation levels in areas where non-routine operations will take place do not exceed 10 CFR 20.1301 limits. For example, applicants can do the following:
 - Commit to performing surveys with a survey instrument (as described above);
 - Specify where and when surveys will be conducted during non-routine operations; and
 - Commit to maintaining, for 3 years from the date of the survey, records of the survey (e.g., who performed the survey, date of the survey, instrument used, measured radiation levels correlated to location of those measurements), as required by 10 CFR 20.2103.