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OCT 27 1983

Radiation Safety Services, Inc.  
ATTN: Eli A. Port, CHP  
827 Simpson Street  
Evanston, IL 60201

Control No. 75458

Gentlemen:

We have completed a preliminary review of your new license application dated August 22, 1983. In order to complete our review, you will need to respond to the following:

1. Please be advised we cannot authorize the types and quantities of materials listed in Section 33.100 for research and development at temporary jobsites. Such activities can only be authorized at defined facilities which have been reviewed by the NRC.
2. It appears that your proposed site of use of licensed material is located at a facility listed as a place of use for another NRC licensee (Illinois Institute of Technology, NRC License Nos. SNM-49 and 12-00171-03).

In order to receive authorization for this site of use, please:

- a. describe the administrative and physical controls you will use to maintain separation of licensed activities between these currently issued licenses and your own proposed activities.
  - b. submit evidence that management of the institution which holds these NRC licenses concurs with your conducting these proposed activities upon their premises. This evidence should take the form of a letter from the institution's management to the NRC stating that they concur with your proposed activities.
  - c. If your proposed activities will involve the routine use of NRC licensed material belonging to other licensees, please obtain their concurrence as described in item (b) above.
3. Individuals whom you wish to have install, relocate, remove or test fixed gauges should have some specialized training in these procedures. As a minimum, this should be equivalent to the manufacturer's training in these procedures. Please describe or outline your training program for these individuals and include:
    - a. who will conduct the training;

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- b. the subject areas covered;
  - c. the minimum length of time required to adequately cover all subject areas;
  - d. your method of insuring that the course objectives have been met.
4. Please state the frequency with which you intend to calibrate the survey instruments and pocket dosimeters used in your own radiation safety program. An annual frequency is recommended.
5. Please provide a copy of your step-by-step procedures for installation, relocation, removal and shutter testing of non-portable gauges. As a minimum, these should include:
  - a. a radiation survey to confirm shutter closure when servicing the gauge;
  - b. procedures to confirm that a gauge is "locked-out" prior to gaining access to any vessel in which an individual may be exposed to the direct beam.
  - c. procedures for minimizing exposure from gauges that have been damaged leaving the integrity of the shutter mechanism in question.
6. Please provide copies of the documents you intend to use to supply your clientel with the results of dose calibrator calibrations and sealed source leak tests.
7. Please demonstrate that you have adequate facilities and procedures for handling damaged gauges under emergency situations. Please include:
  - a. the maximum activity you anticipate needing for this purpose, and demonstrate that this activity is based upon the adequacy of any shielded storage facilities you will use as well as the shielded containers you intend to use for transportation;
  - b. the criteria you will use to determine which emergency situations will be referred to the device manufacturer for corrective action.
8. It is unclear from your facility diagram as to whether there is sufficient shielding for a 5 curie calibration source. Please confirm that radiation levels in unrestricted areas, including areas above and beneath your calibration room, can be maintained below 10 CFR 20.105 levels while survey instrument calibrations are being conducted. A format for these calculations can be found in NCRP Report No. 34, "Medical X-Ray and Gamma Ray Protection for Energies up to 10 MeV," March 2, 1970. Be advised that the use of "occupancy factors" for such calculations should be avoided for the purposes of Part 20.

9. Please supplement and resubmit your routine survey procedures to include contamination surveys of processing areas after handling contaminated environmental samples, damaged sealed sources, or any analysis, synthesis, etc. involving unsealed sources.
10. Please list the sealed source holders (gauges) for which you intend to provide your proposed services and include the manufacturer's name and model number of each gauge.
11. Please justify the use of a five curie calibration source on a portable basis. It appears that your calibration requirements can be met with a smaller sealed source which would conform more closely to ALARA considerations.
12. Ancillary personnel (clerical, nursing, housekeeping, security, etc.) whose duties may require them to work in the vicinity of radioactive material (whether escorted or not) need to be informed about radiation hazards and appropriate precautions. Outline your method to assure that these employees receive the necessary instructions. Confirm that this instruction will be given both initially and annually thereafter on a refresher basis.
13. If it is your intent to possess or service neutron producing devices, please describe your method for evaluating neutron exposures. If commercially available neutron dosimeters will be employed, please list the vendor's name and frequency of exchange for these devices.
14. Submit a more detailed description of the duties and responsibilities of your Radiation Protection Officer, Mr. David J. Derenzo, under your license. The typical duties of a Radiation Protection Officer would be:
  - a. To ensure that the use of radioactive material is by or under the direct supervision of individuals specifically listed on your license.
  - b. To ensure that all users (where appropriate) wear personnel monitoring equipment when using radioactive materials.
  - c. To ensure that radioactive materials are properly secured against unauthorized removal at all times when not in use.
  - d. To perform routine inspections of all laboratories using or storing radioactive materials.
  - e. To ensure that the terms and conditions of your license are met, and that all required records are maintained.
  - f. To immediately halt any activity he judges to be a threat to health, safety, the environment or a violation of the regulations or the conditions of your license.

We will continue our review of your application upon receipt of this information. Please reply in duplicate, within 30 days, and refer to Control Number 75458. If you do not reply within 30 days, we will consider that you have abandoned your application and will void this request. This action will be without prejudice to the resubmission of the application.

If you have any questions or require clarification on any of the information stated above, you may contact us at (312) 932-2625.

Sincerely,

William J. Adam, Ph.D.  
Materials Licensing Section

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