



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 20, 2005

Docket No. 03003759
Control No. 137909

License No. 06-00221-08

Michael H. Gay, Ph.D.
Senior Research Scientist
Chemtura USA Corporation
199 Benson Road
Middlebury, CT 06749-0001

SUBJECT: CHEMTURA USA CORPORATION, REQUEST FOR ADDITIONAL INFORMATION CONCERNING APPLICATION FOR RENEWAL OF LICENSE, CONTROL NO. 137909

Dear Dr. Gay:

This is in reference to your letter dated October 28, 2005 requesting to renew Nuclear Regulatory Commission License No. 06-00221-08. In order to continue our review, we need the following additional information:

1. In item No. 9 (Facilities and Equipment) of your application, you request to spray or treat fruit trees in soil. 10 CFR 51.22(c)(14)(v) identifies as a categorical exclusion (from the requirement to prepare an environmental impact statement) the use of radioactive material for research and development and for educational purposes. However, this categorical exclusion does not encompass, among other things, performance of field studies in which licensed material is deliberately released directly into the environment for purposes of the study. This type of request requires that you file an environmental report and that the NRC conduct an environmental assessment, pursuant to 10 CFR Part 51.

If you want to continue to conduct field studies in which licensed material is deliberately released to the environment for the purpose of studies, please provide the following information, in addition to that provided in item No. 9 of your application:

- a. Describe the field studies that have been conducted thus far. Include in the description the number of studies and the activities of radionuclides involved.
- b. Describe the training and experience of the individuals who will be using the material.
- c. Provide a complete experimental protocol.
- d. Provide your criteria for releasing the plots at the conclusion of the studies, including the soil concentration limits you will utilize.

- e. Provide your calculation of the expected radiation dose to humans. Use of the decontamination and decommissioning (D and D) computer screening code may be helpful to you in developing your response. The D and D code can be installed by downloading the self-extracting program file, setup.exe, accessed through the Web site <<http://techconf.llnl.gov/radcrl/java.html>> clicking on "dose assessment" and then on "decontamination and decommissioning software." The installation instruction file "readme.txt" can also be downloaded using the above Web site, to help users installing the code.
 - f. Provide a letter from Executive Management of Chemtura USA Corporation or, if Chemtura USA is not the property owner, a letter from Executive Management of the property owner, that authorizes use of radioactive materials at the proposed site.
 - g. Provide a letter from the appropriate state health authorities indicating that they have reviewed your application and do not object to your request. Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Medical, industrial, and academic uses of nuclear material**; then **toolkit index page**. Or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 9:00 p.m. EST, Monday through Friday (except Federal holidays).
2. We note in your application that you indicate that an annual inventory of byproduct materials will be conducted. NRC normally expects that inventories will be done at least every six months. Please indicate your basis for annual inventories.
 3. In your application you discuss personnel bioassays, however, except for H-3, you refer to the Radiation Safety Officer's judgement rather than specific criteria that will be used. Please refer to Appendix S to NUREG-1556, Vol. 11 for acceptable radiation survey criteria. You may refer to this model procedure or please provide other criteria.
 4. Additional information is needed to identify the sealed sources contained in your liquid scintillation counters. Please provide manufacturer and model numbers for the actual sealed sources.

We will continue our review upon receipt of this information. Please reply to my attention at the Region I Office and refer to Mail Control No. 137909. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5303.

M. Gay
Chemtura USA Corporation

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In order to continue prompt review of your application, we request that you submit your response to this letter within 30 calendar days from the date of this letter.

Sincerely,

Original signed by Thomas K. Thompson

Thomas K. Thompson
Senior Health Physicist
Commercial and R&D Branch
Division of Nuclear Materials Safety

cc:
Robin R. Charlton, Ph.D., Radiation Safety Officer

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SISP Review Complete: TThompson

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