



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

October 17, 2003

Sue Gross
P.O. Box 113
Spinnerstown, PA 18951

SUBJECT: COBALT-60 IRRADIATOR

Dear Ms. Gross:

This is in response to your letter dated August 30, 2003 regarding the CFC Logistics, Inc. cobalt-60 irradiator in Milford Township. In your letter, you expressed concerns about the safety and security of the irradiator, particularly with regard to the seismic and hydrological reviews conducted for the facility.

Regulatory agencies must rely on engineering analyses to make informed decisions about safety and the ability of facilities to withstand certain types of accident scenarios. NRC regulations in 10 CFR Part 36, "Licenses and Radiation Safety Requirements for Irradiators," establish specific design, construction, and operational requirements for irradiator facilities. These requirements, along with the Commission's standards for protection against radiation contained in 10 CFR Part 20, provide a substantial and well-defined basis for assuring that the risks to public health and safety are very low. For example, to protect groundwater and keep the cobalt-60 from entering the environment, operation and design of the facility involves multiple containment barriers and control features. These include measures such as double encapsulation of the sources and constant monitoring for radioactive contamination in the air around the sources and in the pool water. The physical form of the cobalt itself and the robust pool structure also ensure that the risk of release of radioactive material to the environment is extremely low.

The CFC license application was reviewed against the regulations developed over many years of experience in the regulation of such facilities, incorporating the judgements of experts in many disciplines. The NRC staff's licensing review of the CFC application was extensive. Our actions included technical reviews and numerous onsite inspections by health physics, electrical engineering and geotechnical engineering experts. An internal panel also performed a peer review that focused on unique engineering aspects of the irradiator's design. During our review, we paid particular attention to the potential risks associated with the overhead trolley and hoist system which carries heavy loads over the pool. We looked at seismic risk to the facility and determined that the pool structure was sufficiently robust such that, if a heavy load was dropped, it would not damage the sources or result in loss of water for shielding. In short, we applied substantial staff and management resources to review this application to ensure that the health and safety standards contained in our regulations were met.

In June 2003, the NRC issued Orders requiring compensatory measures to enhance security at irradiator facilities to address the current threat environment. The NRC staff ensured that CFC Logistics, as part of the irradiator community, was kept informed of the compensatory measures under consideration. Consequently, CFC Logistics has already incorporated many of the applicable security enhancements into the design and operational procedures for the

Quakertown facility. After the license was issued, the NRC issued an Order to CFC Logistics imposing the same compensatory measures required for other irradiator facilities.

NRC plans to closely oversee the CFC facility through initial stages of testing and subsequent operation consistent with our regulatory program. We required the licensee to inform us in advance of receiving the cobalt-60 sources so that we could inspect the loading and testing of the irradiator and review the results of radiation surveys at the facility prior to operation of the irradiator. If our inspection program identifies violations of our requirements, we will take appropriate action under our Enforcement Policy, issuing sanctions if necessary.

We appreciate your concerns and hope this information is helpful.

Sincerely,

Original signed by John D. Kinneman

John D. Kinneman, Chief
Nuclear Materials Safety Branch 2

S. Gross

3

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