

December 22, 2003

The Honorable James C. Greenwood  
United States House of Representatives  
Washington, DC 20515-3808

Dear Congressman Greenwood:

On behalf of the Nuclear Regulatory Commission (NRC), I am writing in response to your letter received at NRC on November 26, 2003, regarding the CFC Logistics, Inc., cobalt-60 irradiator in Milford Township, Bucks County, Pennsylvania. Your letter raised questions and concerns received from your constituents about the CFC irradiator and associated NRC licensing and oversight actions. The enclosure to this letter provides responses to those questions and concerns.

As you know, NRC has conducted extensive technical reviews and inspections to assure that the CFC irradiator meets all safety requirements. We have worked hard, as well, to provide information to the public regarding these safety reviews and to respond to questions and concerns that have been raised. This includes participation by NRC management and staff in public meetings in Quakertown, Pennsylvania on July 16 and August 21, 2003.

I trust that this information, which supplements our November 5, 2003 letter responding to your September 2, 2003 letter and the October 3, 2003 meeting between you, members of your staff, and George Pangburn and John Kinneman from our Region I office in King of Prussia, Pennsylvania, is responsive to your request. If you have additional questions regarding this matter, please feel free to contact me or Dennis Rathbun, Director, Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

**/RA/**

William D. Travers  
Executive Director  
for Operations

Enclosure: As stated

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Each question in Congressman Greenwood's letter received November 26, 2003 is restated before the appropriate answer.

1. "The company that owns and operates the irradiator, C.F.C. Logistics, Inc., has posted a bond in the amount of \$115,000 to cover the costs in the event that a clean-up effort is necessary. Please clarify under what circumstances the bond funds could be accessed, what costs are normally associated with those circumstances, and what other sources of funds are typically used in addition to the bond."

CFC Logistics (CFC) has provided a certificate of deposit in the amount of \$75,000 as required by current NRC rules for financial assurance for decommissioning (10 CFR 30.35). The licensee will be required to increase this to \$113,000 by June 2005 in accordance with a recent revision to that regulation. As defined in NRC regulations, (10 CFR 20.1003), decommissioning means to remove a facility from service and reduce residual radioactivity to a level that permits release of the property for restricted or unrestricted use and termination of the license. Since the radioactive material possessed by CFC is contained in sealed sources, we expect that decommissioning would only involve the safe removal and transfer of these sources to an authorized recipient. Based on the operational history of irradiators, there should not be any radioactive contamination requiring "clean-up." The licensee is always responsible for properly decommissioning a site where radioactive material has been used and for properly dispositioning all radioactive material associated with that use. The financial assurance is only used if the licensee is unable to meet this responsibility.

2. "Some community members have expressed frustration that they were unclear of the steps in the licensing process, and that they did not have enough opportunity to participate in the licensing decision. Please explain by what means the NRC notifies members of the public that an irradiation license application has been filed by an entity in their community. Additionally, does the NRC have a simplified explanation of the licensing process that can be made readily accessible to the layperson?"

A description of the licensing process for byproduct materials uses, which includes irradiators such as the CFC facility, can be found on the NRC website at <http://www.nrc.gov/materials/miau/licensing.html>. When NRC receives an application, the staff considers the information presented by the applicant in accordance with the appropriate guidance (NUREG-1556, Volume 6, is the applicable guidance in this case, and is available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v6/>) and makes a licensing decision. Documents associated with these licensing actions, except portions containing proprietary or security information, are made publically available on the NRC website.

Enclosure

A public announcement is not made for most licensing actions NRC receives or issues. The regulations in 10 CFR Part 2 contain requirements for notifications to State and Local governments for certain applications, including applications for the construction or operation of nuclear power reactors and production and utilization facilities. However, these notification requirements do not apply to applications for the construction and operation of an irradiator.

The NRC staff makes every attempt to be responsive to public inquiries on any issue within our regulatory oversight. When the NRC staff became aware of the significant public interest in the CFC case, we participated in two public meetings to discuss our technical review and to listen to public concerns before the license was issued. We carefully considered the issues raised at those meetings and believe they were addressed in our review of the license application.

As you are aware, on June 23, 2003, counsel for Concerned Citizens of Milford Township requested a hearing on the application for the CFC irradiator. In accordance with NRC's procedures regarding the conduct of adjudicatory proceedings for this type of facility, contained in 10 CFR Part 2, Subpart L, the Atomic Safety Licensing Board Panel appointed a Presiding Officer and the hearing process is ongoing. The Presiding Officer has agreed to consider a number of the concerns raised by the citizens.

3. "The design of the CFC Logistics irradiator includes a lever that lowers products into a tank containing rods of cobalt 60. It has been suggested that the collapse of such a rod into the tank may compromise the safety features of the device, and therefore result in leaks of radioactive material. Please address the level of testing that has been done in regards to this scenario."

Material to be irradiated in the CFC irradiator is placed in a steel container or "bell" which is suspended from a steel superstructure by two steel cables. The licensee's contractor tested a sample cable assembly to failure and found that the overall safety factor for the suspension by the two cables is about 6.5. (In other words, the suspension is expected not to fail until about 6.5 times the expected load is applied.) The NRC staff reviewed this safety factor and concluded it was well within normal industry standards which call for a safety factor of about 3. In the unlikely event that the suspension fails, both the clearances around the bells in the pool and the damping effect of the water make it very difficult for a bell to strike and damage the plenum containing the sources. In addition, the plenum is a very robust structure which provides substantial physical protection for the radioactive sources. In summary, the sources are unlikely to be damaged as a result of a failure of the suspension, which itself is an unlikely event.

4. "Apparently, one of the valves used as part of the irradiator was determined to have a problem with leakage. Please discuss how the manufacturer, REVISS, has been part of the process since that problem was discovered."

The CFC irradiator was designed by GrayStar, Inc. and manufactured by Clayton H. Landis, Inc. REVISS manufactured the radioactive sources containing cobalt-60 used in the irradiator. In that capacity, REVISS reviewed the CFC irradiator design to assure that it was suitable for their sources. REVISS considered whether the check valve in the plenum might leak and whether such leakage might have an adverse effect on the sealed sources. The check valve allows the licensee to expel water from the plenum after source loading, thereby increasing the efficiency of the irradiator. However, the check valve does not perform a safety function and we have no indication that it actually has leaked.

Separate from the review of the CFC irradiator, the design of the sealed sources has been reviewed and they are approved by an Agreement State for use and storage both in air and in water irradiators. Sources made to that design have been successfully used for over 20 years in both applications. Based on the qualification of the sources for both air and water applications and the fact that CFC must maintain purity of water at the high levels required by 10 CFR 36.63, the NRC concluded that no additional review of the check valve issue is necessary.

5. “In my September 2 letter I pointed out that a plane crash had recently occurred nearby the site of the irradiator. In your November 5, response, you stated that the NRC ‘did not specifically analyze the effect of an airplane crash,’ yet you concluded that the likelihood that such a crash would cause the release of radioactivity is ‘very remote.’ You stated the size of the footprint and the location of the radioactivity as factors in your assessment. I would appreciate it if you would elaborate on how these two factors led you to the conclusion that an aircraft accident poses minimal risk to the release of hazardous material.”

The answer regarding airplane crashes in our November 5, 2003 letter was based on a staff judgement rather than a formal analysis. It is generally accepted that crashes of large airplanes are not frequent. Crashes of small airplanes are more frequent, but still infrequent in any specific place and cause much less damage than the crash of a large plane. For example, the crash mentioned in your letter was of a small plane in a field and did not involve a home or other structure. While the building which houses the CFC irradiator is large, the irradiator itself is quite compact, occupying a space smaller than a single room in most houses. Considering all of this, it seems reasonable to conclude that it is unlikely that a plane will crash into the irradiator. In addition, if a small plane did crash directly into the irradiator, because there is a building over the irradiator and the sources are inside a robust plenum at the bottom of a well-constructed, water-filled pool at least 14 feet below the ground surface, and the cobalt-60 is in the form of metal sealed in stainless steel tubes, it is reasonable to conclude that a release of radioactivity as a result of such a crash is very unlikely.