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September 4, 2003

DOCKETED
USNRC

Emile Julian
Assistant for Rulemakings and Adjudications
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

September 9, 2003 (3:35PM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

SUBJECT: *Filing in CFC Logistics Licensing Proceeding,
Docket No. 30-36239*

Dear Mr. Julian,

Enclosed for filing please find Petitioners' Motion for a Stay of Issuance of License, Petitioners' Amended Statement of Concerns, and a Notice of Appearance.

In addition, under separate cover, I have filed a Confidential Supplement to the Declaration of Marvin Resnikoff, Ph.D, in Support of Petitioners' Motion for a Stay (September 4, 2003).

Please note that the stay motion contains several attachments: the Declaration of Marvin Resnikoff, Ph.D, the Declaration of Kimberly Haymans-Geisler, and a partial transcript of a public meeting held on August 21, 2003.

Please also note that the three declarations are faxed copies of the originals. I did not receive the originals in time for this filing, but they have been mailed to me. I will send them to you when I receive them.

Thank you for your consideration.

Sincerely,



Diane Curran

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SECY-02

UNITED STATE OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
CFC Logistics, Inc.)	Docket No. 03036239
)	ASLBP No. 03-814-01-ML
Materials License Application)	
)	

NOTICE OF APPEARANCE BY DIANE CURRAN

Pursuant to 10 C.F.R. § 2.713, Diane Curran hereby enters an appearance in this proceeding as duly authorized legal counsel for Petitioners in the above-captioned proceeding. Undersigned counsel is a member in good standing of the bars of the District of Columbia, the State of Maryland, the U.S. District Court for the District of Columbia, and the U.S. Courts of Appeals for the D.C. and First Circuits.

Respectfully submitted,



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September 4, 2003

CERTIFICATE OF SERVICE

I certify that on September 4, 2003, copies of the foregoing Petitioners' Motion for a Stay of Issuance of License, Petitioners' Amended Statement of Concerns, and Notice of Appearance were served on the following by electronic mail and/or first-class mail, as indicated below:

Administrative Judge Michael C. Farrar, Presiding Officer Atomic Safety and Licensing Board Panel Mail Stop-T-3 F23 U.S. Nuclear Regulatory Commission Washington, D.C. 20555-00001 By e-mail: gpb@nrc.gov	Stephen H. Lewis, Esq. Office of General Counsel Mail Stop - 0-15 D21 U.S. Nuclear Regulatory Commission Washington, D.C. 20555 By e-mail to: shl@nrc.gov , abcl@nrc.gov
Administrative Judge Charles N. Kelber Atomic Safety and Licensing Board Panel Mail Stop-T-3 F23 U.S. Nuclear Regulatory Commission Washington, D.C. 20555-00001 By e-mail to: jrk2@nrc.gov	Anthony J. Thompson, Esq. Christopher S. Pugsley, Esq. Law Offices of Anthony J. Thompson, P.C. 1225 19 th Street N.W. Second Floor Washington, D.C. 20036 By e-mail to: ajthompson@athompsonlaw.com cpugsley@athompsonlaw.com
Office of Commission Appellate Adjudication U.S. Nuclear Regulatory Commission Mail Stop o-16C1 Washington, D.C. 20555	James Wood CFC Logistics, Inc. 400 AM Drive Quakertown, PA 18951
Robert J. Sugarman, Esq. Sugarman & Associates Robert Morris Building 11 th Floor Philadelphia, PA 19103 By e-mail to: rsugarman@aol.com	Secretary of the Commission Attention: Rulemakings and Adjudications Staff U.S. Nuclear Regulatory Commission Washington, D.C. 20555 E-mail: hearingdocket@nrc.gov



Diane Curran

CERTIFICATE OF SERVICE

I certify that on September 4, 2003, copies of the foregoing Confidential Supplement to Declaration of Marvin Resnikoff, Ph.D in support of Petitioners' Motion for a Stay were served on the following by electronic mail and/or first-class mail, as indicated below:

Administrative Judge Michael C. Farrar, Presiding Officer Atomic Safety and Licensing Board Panel Mail Stop-T-3 F23 U.S. Nuclear Regulatory Commission Washington, D.C. 20555-00001 By e-mail: gpb@nrc.gov	Stephen H. Lewis, Esq. Office of General Counsel Mail Stop – 0-15 D21 U.S. Nuclear Regulatory Commission Washington, D.C. 20555 By e-mail to: shl@nrc.gov , abcl@nrc.gov
Administrative Judge Charles N. Kelber Atomic Safety and Licensing Board Panel Mail Stop-T-3 F23 U.S. Nuclear Regulatory Commission Washington, D.C. 20555-00001 By e-mail to: jrk2@nrc.gov	Anthony J. Thompson, Esq. Christopher S. Pugsley, Esq. Law Offices of Anthony J. Thompsom, P.C. 1225 19 th Street N.W. Second Floor Washington, D.C. 20036 By e-mail to: ajthompson@athompsonlaw.com cpugsley@athompsonlaw.com
Robert J. Sugarman, Esq. Sugarman & Associates Robert Morris Building 11 th Floor Philadelphia, PA 19103 By e-mail to: rsugarman@aol.com	Emile Julian Assistant for Rulemakings and Adjudications U.S. Nuclear Regulatory Commission Washington, D.C. 20555 E-mail: elj@nrc.gov



Diane Curran

September 4, 2003

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PETITIONERS' AMENDED STATEMENT OF CONCERNS

Pursuant to 10 C.F.R. § 2.1205(l)(1), Petitioners hereby request leave to amend their statement of their areas of concern.

Amended Statement of Concern

Petitioners seek to amend Concern 2, regarding the adequacy of security measures, to allege that the license application filed by CFC Logistics, Inc., for a Cobalt-60 irradiator in Milford Township, Pennsylvania, fails to protect public health or minimize danger to life or property, in violation of 10 C.F.R. § 30.33(a)(2), because it does not include security improvements that the NRC has developed for irradiators. At a public meeting on August 21, 2003, George Pangburn, NRC's Director of the Materials Division in Region 1 stated that the NRC has developed improvements to security measures for irradiators in response to the terrorist attacks of September 11, 2001; but that the Staff does not intend to send these requirements to CFC Logistics until sometime

in the future.¹ Moreover, the NRC does not expect CFC Logistics to come into compliance with these new requirements until December of 2003.

The lack of up-to-date and necessary security measures in the CFC Logistics license application (and now its license) poses an unacceptable safety and security risk to the public. Moreover, by failing to include safety measures known to be necessary within the scope of this licensing proceeding, the NRC has violated the procedural requirements of the Atomic Energy Act and the Administrative Procedure Act, 42 U.S.C. § 2239(a) and 5 U.S.C. § 553.

Justification for Late-Filing

Petitioners submit that the timing of this amendment to its statement of concerns is justified, because Petitioners learned only recently, in the August 21 meeting, that the NRC has not yet imposed enhanced security measures on CFC Logistics, Inc. Moreover, the addition of this concern will not cause prejudice to any party, because the proceeding is at a very early stage.

¹ See partial transcript of August 21, 2003, meeting at pages 3, 13. The transcript is attached to a stay motion that Petitioners filed with the Atomic Safety and Licensing Board today.

Respectfully submitted,



Diane Curran

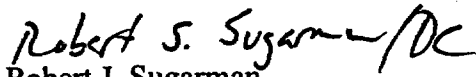
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UNITED STATE OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
CFC Logistics, Inc.)	Docket No. 03036239
)	ASLBP No. 03-814-01-ML
Materials License Application)	
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PETITIONERS' MOTION FOR STAY OF ISSUANCE OF LICENSE

Pursuant to 10 C.F.R. §§ 1263 and 2.788, Petitioners hereby request the Atomic Safety and Licensing Board ("ASLB") to stay the issuance of a license to CFC Logistics, Inc., for a Cobalt-60 irradiator in Milford Township, Pennsylvania. This motion is supported by the Declaration of Dr. Marvin Resnikoff, Ph.D (September 4, 2003) and a Confidential Supplement to Dr. Resnikoff's Declaration, also dated September 4, 2003.¹

I. FACTUAL AND PROCEDURAL BACKGROUND

On February 25, 2002, CFC Logistics, Inc. filed an application with the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") for a license to use Cobalt-60 in a food irradiator to be built in Milford Township, Pennsylvania. The capacity of the facility would be one million Curies of Cobalt-60. On June 23, 2003, Petitioners requested a hearing on the proposed license, and raised a number of concerns regarding the adequacy of the license application to protect against accidental releases of radioactive material to the environment, ensure the security of the facility, or provide for adequate decommissioning funding.

¹ The Confidential Supplement has been served only on the ASLB and counsel for the Staff and applicant.

On July 16 and August 21, 2003, the NRC Staff held two public meetings regarding the proposed license. At the August 21 meeting, NRC Staff member George Pangburn, Director of NRC's Materials Division in Region 1, announced that the NRC would be issuing a license to CFC Logistics within the next few days. The Staff also refused Petitioners' request to stay the issuance of the license, on the ground that it CFC Logistics had met NRC requirements. See attached transcript of August 21 meeting at 19.² Petitioners filed a motion for a stay of the issuance of the license on August 22, 2003, but the ASLB denied it on the ground of prematurity. The Staff subsequently issued the license on August 27.³

II. ARGUMENT

A balancing of the four factors set forth in 10 C.F.R. § 2.788(e) shows that Petitioners meet the standard for the granting of a stay. In addition, Petitioners satisfy the judicial test for granting a stay. As the Court observed in *State of Ohio ex rel. Celebrezze v. NRC*, the probability of success on the merits that must be shown is "inversely proportional to the degree of irreparable injury the plaintiffs will suffer absent an injunction."⁴ At a minimum, the movant must show "serious questions going to the

² Although the meeting was not formally transcribed, a videotape was made. As attested to in the attached Declaration of Kimberly Haymans-Geisler (September 4, 2003), Ms. Haymans-Geisler prepared a transcript of the meeting from the videotape.

³ On August 28, 2003, pursuant to an order by the ASLB, CFC Logistics provided Petitioners with a confidentiality agreement to cover proprietary licensing documents. These documents included drawings and procedures that had not been included in the publicly available version of CFC Logistics' license application. Most of the confidential documents were provided to counsel for Petitioners on September 2, 2003. Petitioners' expert, Dr. Marvin Resnikoff, who was out of town from August 30 through September 3, received those documents on September 4, 2003.

⁴ *State of Ohio ex rel. Celebrezze v. NRC*, 812 F.2d 288, 290 (6th Cir. 1987), citing *Cuomo v. NRC*, 772 F.2d 972, 974 (D.C. Cir. 1985); *In re DeLorean Motor Company*, 755 F.2d 1223, 1229 (6th Cir. 1985).

⁴ *State of Ohio*, 812 F.2d at 290, citing *DeLorean*, 755 F.2d at 1229, *Friendship Materials Inc. v. Michigan Brick Inc.*, 679 F.2d 100, 105 (6th Cir. 1982).

merits and irreparable harm which decidedly outweighs any potential harm to the defendant if a [stay] is issued.”⁵

A. Petitioners Have a Strong Likelihood of Prevailing on the Merits.

Petitioners have a strong likelihood of prevailing on the merits of their concerns, as set forth in their Specification of Areas of Concern (August 14, 2003), and in Petitioners’ Amended Statement of Concerns (September 4, 2003). First, the ASLB is likely to rule for Petitioners on the inadequacy of security measures for the CFC Logistics plant. These facilities are particularly attractive to saboteurs and terrorists, who may attempt to steal cobalt pellets from irradiation facilities that can be mixed with conventional explosives to produce “dirty bombs,” or attack the facility and disperse the Cobalt-60. Resnikoff Declaration, par. 10. The Cobalt-60 sources are also vulnerable during transportation. *Id.*, par. 26.

After the terrorist attacks of September 11, 2003, the NRC conducted an across-the-board study of the adequacy of security measures at all of its nuclear facilities. During the past year, the agency has developed security upgrades for most of these facilities, including irradiators. Amazingly, however, the NRC did not impose these security upgrades on CFC Logistics in the course of this licensing proceeding. Instead, as revealed at the August 21, 2003, public meeting by NRC Staff member George Pangborn, the NRC plans to send these requirements to CFC Logistics sometime in the future. See transcript at pages 3, 13. Moreover, the NRC does not expect CFC Logistics to come

into compliance with these new requirements until December of 2003.⁶ As discussed in par. 2 of the Supplement to the Resnikoff's Declaration, current security measures are inadequate to address security threats.

Petitioners submit that, by itself, the complete absence from CFC Logistics' application or license of any reference to these new security measures constitutes grounds for the issuance of a stay. By establishing new security improvements for irradiators, the NRC has effectively conceded that current security requirements are insufficient to protect against sabotage and terrorist attacks. The failure of the CFC Logistics application to address these requirements, or of the NRC to insist that they be implemented prior to operation, blatantly violates the NRC's standards for protection of public health and safety, as established in the Atomic Energy Act and NRC regulations. 42 U.S.C. § 2111; 10 C.F.R. § 30.32(a)(2).⁷

Moreover, the NRC's decision to impose security improvements that are deemed necessary for the safe operation of the CFC Logistics plant, without including them in the licensing decision for the facility, violates the public participation requirements of the Atomic Energy Act and the Administrative Procedure Act ("APA"), 42 U.S.C. § 2239

⁶ Petitioners have no reason to take assurance from the NRC Staff's statement, at the August 21 meeting, that "many" of the new security measures are already "in place." Transcript at 13. The word "many" is an undefined and subjective term. Moreover, the Staff's assurances are disingenuous. Clearly, the NRC has gone out of its way to avoid being accountable to the public for post 9/11 security measures, by attempting to remove the security issue from the licensing process. Broad and unsupported assertions regarding the degree to which post-9/11 security upgrades have been implemented are not entitled to any deference, without some measure of accountability to back them up.

⁷ Moreover, there is no excuse for the postponement of compliance: (1) as stated by Mr. Pangborn at the August 21 meeting, the irradiator security requirements are already established, and do not require further development; (2) the federal government has made homeland security a top priority, trumping many other requirements; and (3) we are now on the eve of the second anniversary of the events of September 11, 2001, ample time in which to implement a response to such a high-priority problem. Under the circumstances, there is no excuse whatsoever for the delay in improving security at the CFC Logistics plant.

and 5 U.S.C. § 553, because it would impose licensing or regulatory requirements on CFC Logistics, Inc., without providing interested members of the public with a hearing or opportunity to comment. Petitioners have a strong likelihood of prevailing on the merits of this issue, because the NRC's actions so blatantly violate NRC's enabling statute and the Administrative Procedure Act.⁸

Petitioners also have a substantial likelihood of prevailing on the merits of their concerns regarding the risk of accidental dispersion of radioactive material in air and water during loading, unloading, and transportation (see Concerns 1,3,4, and 5). Petitioners are likely to prevail on these issues, because their factual basis is substantiated by Dr. Resnikoff's Declaration, and because they are legally grounded in NRC regulations for irradiator facilities, as well as precedents established in comparable regulatory areas.

As demonstrated in pars. 11-17 of the Resnikoff Declaration, for instance, operation of the CFC Logistics facility poses an unacceptable safety risk, and is contrary to the requirement in 10 C.F.R. § 30.33(a)(2) that "proposed equipment and facilities are adequate to protect health and minimize danger to life or property", because the crane that will be used to unload Cobalt-60 from shipping casks into the plenum is not single-failure proof; nor is there any indication that the plant is designed to prevent the movement of a shipping cask over the Cobalt-60 source. *See also Confidential Supplement to Resnikoff Declaration, par. 3.* Some truck shipping casks can weigh over

⁸ See *Union of Concerned Scientists v. NRC*, 711 F.2d 370, 380 (D.C. Cir. 2983) (holding that NRC was required to grant a hearing when it excised a compliance deadline from all reactor licenses); *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1314 (D.C. Cir. 1984) (holding that change in license term constituted a license amendment for which a hearing was required).

25 tons. Notably, the application is silent regarding the type and characteristics of the shipping cask that will be used, and the type of lifting devices that will be employed by CFC. If the crane were to fail for any number of causes (for instance, electricity outage or earthquake, both of which happened in the last two weeks, a cask could break the sealed source containers.⁹ A cask drop accident could seriously contaminate the pool and lead to water contamination and air contamination that could be ventilated to the external environment. Petitioners are likely to prevail on this issue, given that the NRC has established precedents in the similar area of reactor fuel movement, which require that cranes for moving fuel storage casks must be single failure-proof, and may not carry casks directly over irradiated fuel. Resnikoff Declaration, par. 14.

Moreover, contrary to 10 C.F.R. §§ 35.53(b)(3) and (b)(4), the CFC Logistics license application does not contain any procedures for accidents that may occur during loading and unloading sources. Resnikoff Declaration, par. 19. The emergency plans, such as they exist, call for phoning the Radiation Safety Officer, who may or may not be located in Quakertown.¹⁰ She may be located in New Jersey, at other irradiation facilities, where she may be similarly employed. It is unlikely that the RSO could direct the accident response effectively from a remote location. In addition, the application contains no emergency procedures for remedying a cask drop accident. There are no

⁹ During the week of August 11, 2003, a failure in the grid system caused the largest power blackout in history. Electric power was lost to large portions of the northeastern United States and eastern Canada, and 50 million people were without electricity. On August 26, 2003, a magnitude 3.8 earthquake shook eastern Pennsylvania and portions of New Jersey.

¹⁰ CFC Logistics' application refers to the RSO as Marie Turner. On April 18, 2003, Graystar, manufacturer of the irradiator, wrote a letter to a Sharon Turner, RSO.

phone numbers for police, or fire and ambulance; nor is there any indication that they would know what to do, as there is no provision for training or drills.

In addition, as discussed in the Resnikoff Declaration at par. 21, in violation of 10 C.F.R. § 36.53(b)(6), the license application has no emergency procedures for accidents involving a prolonged loss of electricity. Without clear measures for recovering from a prolonged loss of electricity, the safety of neighboring members of the public cannot be assured. Moreover, the license application does not analyze the range of accidents that could be caused by a loss of electricity. While the application does discuss the possibility of the loss of electricity supply in terms of overheating of sources, other credible accidents are not considered.¹¹ Further, in the course of discussing the possibility of the loss of electricity supply in terms of overheating of sources, the application fails to provide adequate information regarding the heat rate and the number of hours until the source cladding degrades. Resnikoff Declaration, par. 24.

Furthermore, in contravention of 10 C.F.R. §§ 36.53(b)(4) and 36.63(a), the CFC Logistics license application has no discussion of emergency procedures for accidents involving a break in the compressed air line. As discussed in the Resnikoff Declaration at par. 25, a break in the line would allow water to enter the bell, and would degrade the product, causing it to clog filters and the water circulation system. As discussed in

¹¹ Resnikoff Declaration, par. 23. For instance, movement of product near the plenum containing Co-60 sources occurs under bells inserted under water; the bottom of the bell is open, but water cannot enter due to a compressed air supply. In the event that power is lost while a bell is underwater, the product could become water-logged and distribute itself within the pool, thereby clogging the filters and the water circulation system. In the changeover to new filters, Co-60 could bypass the containment system and be released as wastewater. The applicant does not discuss this potential accident, or any procedures for recovering from this loss of electricity accident in which product floats in the pool. *Id.*

footnote 1, in the course of changing filters to address this problem, Cobalt-60 could bypass the containment system and be released to the environment.

Finally, the \$75,000 clean-up bond offered by the applicant is completely inadequate to cover the cleanup of any serious accident at the CFC Logistics facility. Even for an irradiator that does not have contamination problems, the NRC estimates that cleanup costs will be on the order of \$128,000. Proposed Rule, Financial Assurance Amendments for Materials Licensees, 67 Fed. Reg. 62,403 (October 7, 2002). At the August 21, meeting, the NRC Staff also conceded that the \$75,000 bond is inadequate, and that under a new rule that will be promulgated sometime in the future, "all irradiators that NRC regulates around the country will be required to come in with a site-specific cost estimate will be changed when the final rule is promulgated." Statement of George Pangburn, Transcript at 15. Petitioners plan to file a waiver petition with the ASLB, seeking imposition of the requirement of the proposed rule that a decommissioning funding estimate must be provided for the CFC Logistics facility. Petitioners anticipate that if local conditions, including the relatively high water table, are considered, the amount of a decommissioning funding bond should be significantly greater than \$75,000. This issue should be resolved before CFC Logistics is allowed to go forward with operations, in order to assure that sufficient funding is available to clean up the site if CFC Logistics should go bankrupt or have an accident involving onsite or offsite contamination. Petitioners are likely to prevail on the question of the inadequacy of the \$75,000 letter of credit, because the NRC has effectively conceded that a \$75,000 bond is inadequate to provide adequate cleanup funds for any large irradiator.

B. Petitioners Will Suffer Immediate and Irreparable Harm.

As the U.S. Court of Appeals has recognized, even where the likelihood of an accident is small, a stay may be warranted where “the potential severity is enormous” and “the injuries which could result are indisputably irreparable.” *State of Ohio, supra*, 812 F.2d at 291. Here, as discussed in the Resnikoff Declaration, the potential harm caused by an intentional or accidental radiological release from the CFC Logistics plant would be irreparable and significant. As Dr. Resnikoff testifies in par. 27, a Cobalt-60 cask shipment, attacked within a city, could cause major environmental pollution and cancer fatalities. Clean-up could also cost billions of dollars, and cause significant disruption of affected communities. The adverse health effects and economic consequences caused by a cask-drop accident at the plant could also be significant. Resnikoff Declaration, pars. 17, 18, 20, 27.

C. The Harm to Other Parties Is Minimal.

The harm to CFC Logistics would be in the nature of economic costs posed by delay of licensing. Such economic considerations are outweighed by safety considerations. *State of Ohio*, 812 F.2d at 292. In any event, CFC Logistics will not suffer any significant injury from a stay, because it is able to use the building where the irradiator would be housed for other purposes. Moreover, CFC Logistics built the building without the assurance of being able to operate the irradiator. Finally, CFC Logistics did not apply for the license until February 2003, after the building was complete or substantially complete. Thus, CFC did not show great urgency in obtaining a license for the facility.

D. The Public Interest Favors Issuance of a Stay.

As the Court held in *State of Ohio*, public safety is "the most crucial concern" with respect to public interest considerations. 812 F.2d at 292. As demonstrated above, the application for the CFC Logistics facility is deficient in significant respects, thus failing to provide a reasonable assurance that the health and safety of the public will be protected. Moreover, the CFC Logistics application (which now provides the substantive content of the license) fails to include security measures acknowledged by the NRC to be necessary to protect the security of the facility in the post 9/11 environment. Finally, the NRC Staff effectively conceded at the August 21 meeting that the \$75,000 bond posted by CFC Logistics is inadequate to provide for decommissioning of the plant if CFC Logistics should go bankrupt or otherwise be unable to operate the facility. Given these serious threats to the health and safety and the security of the neighbors of the facility, the public interest in staying the issuance of a license to CFC Logistics far outweighs any economic harm that a stay might cause to CFC Logistics.

III. CONCLUSION

For the foregoing reasons, the ASLB should stay the effectiveness of the license issued to CFC Logistics, pending completion of this adjudicatory proceeding.

Respectfully submitted,



Diane Curran

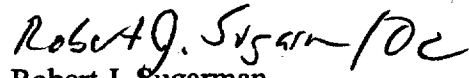
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September 4, 2003

UNITED STATE OF AMERICA
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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
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)	ASLBP No. 03-814-01-ML
Materials License Application))	

**DECLARATION OF MARVIN RESNIKOFF, Ph.D.
IN SUPPORT OF PETITIONERS' MOTION FOR A STAY**

Under penalty of perjury, I, Dr. Marvin Resnikoff, hereby declare that:

1. I am a physicist with a Ph.D. in high-energy theoretical physics from the University of Michigan and also the Senior Associate of Radioactive Waste Management Associates (RWMA), a private technical consulting firm based in New York City. I have researched radioactive waste issues for the past 29 years and have extensive experience and training in the field of nuclear waste management, storage, and disposal. RWMA works, among other areas, primarily on three subjects: transportation and storage of radioactive waste and materials, radiation induced injuries, and decontamination and site remediation of radioactively contaminated facilities. A copy of my resume is attached to this declaration as Exhibit A.
2. I have considerable training and experience in the field of risk assessment involving nuclear and hazardous facilities, serving as an expert witness in numerous personal injury cases in which I estimated radiation doses and the likelihood these exposures caused cancer. These cases involved uranium mining and milling, oil pipe cleaning, X-rays, thorium contamination and other issues. This work involved the use of computer codes, such as CAP88PC, RADTRAN, RESRAD, RISKIND, MILDOS and HOTSHOT, and spreadsheets employing dose conversion factors, to estimate radiation doses.
3. A paper on decommissioning reactors I wrote in 1976 (*Environment*, December 1976) was the first to show that reactors would remain radioactive for hundreds of thousands of years. The importance of our discovery was noted by *Science* magazine in 1982, which is attached hereto as Exhibit B. As part of our work analyzing radioactive waste shipments to low-level waste facilities and waste impacts of the nuclear fuel cycle, I have stayed up-to-date on the decommissioning literature, including more recent NRC reports. I reviewed decommissioning reports for the Rancho Seco reactor in California, the Big Rock Point reactor in Michigan, the Yankee Atomic reactor in Rowe, Massachusetts, and the Connecticut Yankee reactor in Haddam Neck, Connecticut.
4. In addition RWMA has conducted technical analyses for public interest groups and local governments at each of the proposed low-level waste disposal facilities across

the country, including Martinsville (IL), S. Windsor (CT), Chatham County (NC), Hudspeth County (TX), Ward Valley (CA) and Boyd County (NE). In the process of conducting these analyses, we have examined and used the computer programs MODFLOW, PRESTO-CPG and IMPACTS, used to estimate groundwater flow and risk due to radioactive materials. I served as project manager and focused on the risk assessment sections of our reports.

5. RWMA is involved in several major personal injury cases involving radiation due to uranium mining and milling operations, and oil pipe cleaning operations (NORM). We also serve as technical advisors to the States of Utah and Nevada on issues involving transportation, handling and storage of irradiated fuel.
6. I have previously assisted a local group in Dickerson, MD regarding Neutron Products, Inc., a company that processed Co-60 into specific forms for irradiation devices.
7. I am one of the Petitioners' expert witnesses in support of its petition to intervene in this hearing, which relates to the Materials License Application proposed by CFC Logistics, Inc. for a Genesis Irradiator in Milford Township, Pennsylvania. I participated in the drafting of Petitioners' issues of concern.
8. To prepare this affidavit, I reviewed CFC Logistics' Materials License Application, and other filings in this NRC docket, including the Staff's Request for Additional Information. I am also familiar with NRC regulations and guidance documents related to this application.
9. In my best professional judgment, residents of Milford Township and the petitioners would suffer irreparable harm if the NRC license were granted. This declaration discusses the basis for this conclusion.
10. **Security.** In a public meeting held on August 21, 2003, the NRC stated that it has not yet required CFC Logistics to implement new security measures that the NRC is requiring as a result of the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon. A partial transcription of that meeting is attached to Petitioners' stay motion. At the meeting, the NRC Staff also stated that CFC Logistics would not be required to implement these new measures until December. It is well-known that Cobalt-60 is an attractive target for terrorists, because it can be used to make dirty bombs. It is also well-known that in general, nuclear facilities are a target of the Al Qaeda organization. Cobalt-60 irradiation facilities are a particularly attractive target, because of their relatively low level of security. If Cobalt-60 were stolen from the proposed facility, or if the facility were attacked, Cobalt-60 could be released into the environment, causing significant adverse health effects and spreading contamination that would be expensive to clean up. Therefore, in my professional opinion, allowing the CFC Logistics facility to operate, before these new security measures have been implemented, poses an unacceptable risk of irreparable injury to the neighbors of the proposed facility. It is also possible these new security measures are inadequate and it is not clear if they also pertain to transportation, or just to fixed facilities.

11. **Loading and Unloading Equipment and Procedures.** RWMA serves as a technical consultant to the States of Utah and Nevada regarding the transportation, handling and storage of irradiated reactor fuel. The safety issues raised by handling and storage of Co-60 are similar to the safety issues raised by handling and storage of irradiated reactor fuel.
12. Based on my experience with loading and unloading irradiated fuel, this stage is the most precarious and susceptible to a major accident if the equipment, training and emergency procedures were not up to this difficult task. For similar reasons, I believe the loading and unloading of Co-60 at the proposed irradiation facility will be precarious and susceptible to a major accident. According to the license application, a shipping cask containing 200,000 Ci of Co-60 sources would be inserted into the pool. Sources would be removed and placed underwater on one side of the pool, away from the cask. The plenum would be removed before this operation. As the shipping cask, which could weigh upwards of 25 tons, was removed from the pool, it could drop onto the sources, seriously contaminating the pool water. This contamination would have to be removed with ion exchange columns that would become extremely radioactive. The steel-liner of the pool would become radioactive. Some of this radioactivity could be released to the sanitary sewers and the air. The application contains no details about the type and weight of the cask, how the cask is unloaded from the trailer bed and how the cask is attached to the crane and lowered into the water.
13. In 1980 a shipping cask containing irradiated fuel from the Connecticut Yankee reactor overheated, and contaminated the Battelle Columbus Laboratory fuel pool with fission products and Co-60. The contamination in the pool set off the air monitors, and led to major radiation exposures. On the basis of this accident, on behalf of the Sierra Club, I petitioned the NRC to inert all transportation casks, so the contents would not oxidize. While the petition was ostensibly denied, the NRC did order all shippers to inert shipping casks with helium or nitrogen. The physical and chemical properties of irradiated fuel are admittedly different from Co-60 sources at CFC Logistics, but the possibility of radioactivity becoming airborne in an accident is similar to what may occur at CFC Logistics. If the Co-60 sources were damaged in an accident, Co-60 could become airborne and be released to the external environment.
14. To protect against a cask drop at nuclear reactor fuel pools, the cranes at nuclear reactors are designed to be single failure proof. Further, at nuclear reactors, the crane is designed such that shipping casks can never be moved over irradiated fuel. A cask drop at a nuclear reactor is therefore extremely unlikely. In contrast, there is no indication in the CFC Logistics license application that the crane used to lower the shipping cask into the pool is single failure proof, or that a cask could not be moved over the Co-60 source in the pool. If the crane were to fail for any number of causes (electricity outage or earthquake, both of which have happened in the last

two weeks)¹, a cask drop could break the sealed source containers and expose the Co-60 to the pool water, similar to the Battelle accident.

15. A cask drop accident could occur during loading of Co-60 into the proposed facility. It could also occur during removal of the sources from the pool. If the sources were bent out of shape it might not be possible to return them to the shipping cask for removal.
16. As far as can be ascertained by the application, the crane is not designed to stop where the sources are located since it is the same crane used to move product over the entire pool.
17. In my opinion, a cask drop accident could seriously contaminate the pool and lead to water contamination and air contamination that could be ventilated to the external environment. Given that some residents live as close as a quarter mile from the proposed facility, the resulting contamination could have significant adverse effects on public health. It would also be very expensive to clean up. Similar to operations at Neutron Products Incorporated (NPI) in Dickerson, Maryland, where Co-60 material was shaped to fit different irradiators, Co-60 released to the environment could lead to a significant direct gamma dose, and would be expensive to decontaminate. At NPI, despite the presence of HEPA filters to capture particulates, Co-60 was found off-site; the direct gamma dose rates were five times NRC regulatory limits. Therefore, I consider the potential for a cask drop accident to pose a serious risk of irreparable harm.
18. The issue of water contamination is a serious matter at the proposed irradiation facility. The water table at the proposed irradiation facility is high. While the foundation was being excavated for the "cold storage facility," "approximately 4"-8" of ground water (appeared) in (the) bottom of (the) hole."² Should an accident occur that causes a leak in the pool, such as a shipping cask drop that cracks the pool liner and concrete, contaminated water from the pool would immediately enter groundwater. Many homes in the vicinity of the proposed irradiator have private wells that tap into the local aquifer.
19. Further, the application has no emergency procedures for accidents that may occur during loading and unloading sources. This is contrary to 10 CFR §36.53(b)(3) and (4). The emergency plans, such as they exist, call for phoning the radiation safety officer (RSO), who may or may not be located in Quakertown. The RSO may be located in NJ, at other irradiation facilities, where she may also serve in a similar capacity. It is unlikely that the RSO could direct the emergency response effectively from a remote location. In addition, the application contains no emergency

¹ During the week of August 11, 2003, a failure in the grid system caused the largest power blackout in history. Electric power was lost to large portions of the northeastern United States and eastern Canada, and 50 million people were without electricity. On August 26, 2003, a magnitude 3.8 earthquake shook eastern Pennsylvania and portions of New Jersey.

² Field Inspection Report, Cowan Associates, Inc. (February 12, 2003). This document was attached to CFC Logistics' February 25, 2003, license application, and is available on ADAMS.

procedures for remedying a cask drop accident. There are no phone numbers for police, or fire and ambulance; nor is there any indication that they would know what to do, as there is no provision for training or drills, contrary to 10 CFR §§36.51(d)(6) and (g).

20. A drop of a 25-ton shipping cask or an earthquake could also damage the pool lining, causing a loss of shielding water. This would greatly increase the radiation dose rate. To put the amount of radiation in each source in perspective, a person standing one meter from an unshielded one curie source of Co-60 would receive a dose of 1.37 rem/hr, using specific gamma-ray dose constants.³ That is, each 17,000 unshielded curie source yields an LD50 dose in one minute. The Genesis irradiator can hold up to 256 sources, or 4.35 million curies⁴. This accident is not discussed in the application.
21. **Loss of electricity.** Contrary to 10 C.F.R. §36.53(b)(6), the licensee has no emergency procedures for accidents involving a prolonged loss of electricity. Without clear measures for recovering from a prolonged loss of electricity, the safety of neighboring members of the public cannot be assured.
22. The licensee does not appear to have an emergency electric generator in case of an extended power failure.
23. Moreover, the license application does not analyze the range of accidents that could be caused by a loss of electricity. While the application does discuss the possibility of the loss of electricity supply in terms of overheating of sources, other credible accidents are not considered. For instance, movement of product near the plenum containing Co-60 sources occurs under bells inserted under water; the bottom of the bell is open, but water cannot enter due to a compressed air supply. In the event that power is lost while a bell is underwater, the product could become water-logged and distribute itself within the pool, thereby clogging the filters and the water circulation system. In the changeover to new filters, Co-60 could bypass the containment system and be released as wastewater. The applicant does not discuss this potential accident, or any procedures for recovering from this loss of electricity accident in which product floats in the pool.
24. Moreover, in discussing the possibility of the loss of electricity supply in terms of overheating of sources, the application fails to provide specific information regarding the heat rate and the number of hours until the source cladding degrades. The application does contain discussion of the heat rate for one source in a pool of water and for 145,000 Ci in a shipping cask, but not for one million curies of Co-60 in a plenum, the situation at CFC⁵. The application should contain detailed information on how rapidly the sources will heat up and the consequences of overheating. This information is needed to know how long the electricity may remain off before a

³ Shleien, B et al, *Handbook of Physics and Radiological Health*, Williams and Wilkins, Baltimore, 1998, Table 6.2.2

⁴ The applicant has requested a license for one million curies.

⁵ Letter from RN Stein, Gray*Star to S Turner, CFC Logistics (April 18, 2003).

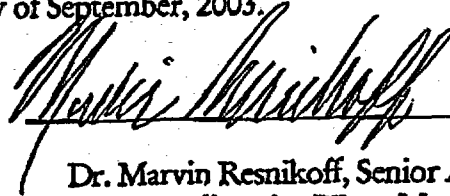
- serious accident ensues. In the event of overheating, the cladding around the sources could fail, contaminating the air and overloading the HEPA filters. Co-60 could be released to the external environment.
25. **Damaged air line.** Contrary to §36.53(b)(4) and §36.63(a), the licensee has no emergency procedures for accidents involving a break in the compressed air line. This would allow water to enter the bell, and would degrade the product, similar to the discussion in Para. 23.
26. **Transportation accidents: safety and environmental impact.** Cobalt-60 sources, in transit from Canada or Russia to the CFC Logistics plant, would not be well-protected from a terrorist attack. The NRC does not require armed escorts for Co-60 sources. Yet, potential saboteurs have significant fire power at their disposal. The TOW2 and MILAN anti-tank missiles have a range of one km and can penetrate one meter of steel, far more steel and lead than the walls of a shipping cask. The newer Russian Koronet missile, used by Iraqi armed forces, can penetrate 1.2 meters of steel and can be aimed precisely at a distance up to 5 km. These weapons have the ability to penetrate a shipping cask and disperse its contents. NUREG-0170, that the applicant cites in supporting its safety assurances, is silent on these safety and security issues.
27. A Cobalt-60 cask shipment, attacked within a city, could cause major environmental pollution and cancer fatalities. Local residents would clearly have a greater risk than other persons: while shipments could leave Canada or Europe by a number of routes, once they get close to the facility, the route options are more limited. Such an accident would subject the residents of Milford Township to irreparable harm. In addition to significant adverse health effects caused by contamination, such an accident would have significant economic impacts, and would seriously disrupt the affected communities. Based on an analysis done for the State of Nevada, it is reasonable to estimate that the decontamination due to an accident involving a spill of 200,000 curies of Cobalt-60 costs could easily exceed \$1 billion.
28. The environmental impact of shipping Co-60 sources has not been seriously investigated by the applicant, nor the NRC, and is a major deficiency of the application. The applicant downplays the possibility of a transportation accident and security concerns involving transportation, citing a 1976 environmental report by the Nuclear Regulatory Commission, NUREG-0170. But this study, which was inadequate in 1976, is now hopelessly out of date in all relevant respects.
29. **Decommissioning Funding and Liability Insurance.** The applicant has offered the minimum \$75,000 financial assurance for decommissioning, but this would clearly be inadequate if a major accident were to occur. Nuclear reactors are insured for billions of dollars under Price-Anderson, but CFC Logistics does not appear to be insured for credible accidents. Therefore, it does not appear that CFC Logistics will have sufficient funds to clean up after any accident that may occur.

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30. In my best professional opinion, due to all the problems in CFC's application as discussed above, the operation of the proposed CFC Logistics irradiator poses serious risks to the health and safety of the surrounding public, because CFC Logistics, Inc. has not provided for adequate protection against accidents at the facility. Local residents would suffer significant and irreparable harm if a major accident were to occur.
31. If the petitioners' concerns are admitted for litigation, I would testify regarding my opinion in support of their conclusions. The technical facts and analyses described above provide an abstract of the testimony I would give, based on the information that has been furnished to date. I would expect to be able to expand upon and refine my testimony, after having an opportunity to review materials produced by CFC and the NRC Staff in discovery.

I declare under penalty of perjury that the factual information provided above is true and correct to the best of my knowledge and belief, and that the professional opinions expressed above are based on my best professional judgment.

Executed on this 4th day of September, 2003.



Dr. Marvin Resnikoff, Senior Associate
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Resume of Marvin Resnikoff, Ph.D.

Dr. Marvin Resnikoff is Senior Associate at Radioactive Waste Management Associates and is an international consultant on radioactive waste management issues. He is Principal Manager at Associates and is Project Director for dose reconstruction and risk assessment studies of radioactive waste facilities and transportation of radioactive materials. Dr. Resnikoff has concentrated exclusively on radioactive waste issues since 1974. He has conducted studies on the remediation and closure of the leaking Maxey Flats, Kentucky radioactive landfill for Maxey Flats Concerned Citizens, Inc. and of the leaking uranium basin on the NMI/Starmet site in Concord, Massachusetts under grants from the Environmental Protection Agency. He also conducted studies of the Wayne and Maywood, New Jersey thorium Superfund sites and proposed low-level radioactive waste facilities at Martinsville (Illinois), Boyd County (Nebraska), Wake County (North Carolina), Ward Valley (California) and Hudspeth County (Texas). He has conducted several studies of transportation accident risks and probabilities for the State of Nevada and several Nevada counties and dose reconstruction studies of oil pipe cleaners in Mississippi and Louisiana, residents of Canon City, Colorado near a former uranium mill, residents of West Chicago, Illinois near a former thorium processing plant, and residents and former workers at a thorium processing facility in Maywood, New Jersey. In West Chicago he calculated exposures and risks due to thorium contamination and served as an expert witness for plaintiffs A Muzzey, S Bryan, D Schroeder and assisted counsel for plaintiffs KL West and KA West. He is presently serving as an expert witness for plaintiffs in Karnes County, Texas, Milan, NM and Uravan, CO, who were exposed to radioactivity from uranium mining and milling activities. He also evaluated radiation exposures and risks in worker compensation cases involving G Boeni and M Talitsch, former workers at Maywood Chemical Works thorium processing plant. In June 2000, he was appointed to a Blue Ribbon Panel on Alternatives to Incineration by DOE Secretary Bill Richardson.

In February 1976, assisted by four engineering students at State University of New York at Buffalo, Dr. Resnikoff authored a paper that, according to *Science*, changed the direction of power reactor decommissioning in the United States. His paper showed that power reactors could not be entombed for long enough periods to allow the radioactivity to decay to safe enough levels for unrestricted release. The presence of long-lived radionuclides meant that large volumes of decommissioning waste would still have to go to low-level or high-level waste disposal facilities. He assisted public interest groups on the decommissioning of the Yankee-Rowe, Diablo Canyon, Big Rock Point and Haddam Neck reactors.

Under a contract with the State of Utah, Dr. Resnikoff is a technical consultant to DEQ on the proposed dry cask storage facility for high-level waste at Skull Valley, Utah and proposed storage/transportation casks. He is assisting the State on licensing proceedings before the Nuclear Regulatory Commission. In addition, at hearings before state commissions and in federal court, he has investigated proposed dry storage facilities at the Point Beach (WI), Prairie Island (MN) and Palisades (MI) reactors. He is also presently preparing studies on transportation risks and consequences for the State of Nevada and Clark and White Pine Counties.

In Canada, he has conducted studies on behalf of the Coalition of Environmental Groups and Northwatch for hearings before the Ontario Environmental Assessment Board on issues involving radioactive waste in the nuclear fuel cycle and Elliot Lake tailings and the Interchurch Uranium Coalition in Environmental Impact Statement hearings before a Federal panel regarding the environmental impact of uranium mining in Northern Saskatchewan. He has also worked on behalf of the Morningside Heights Consortium regarding radium-contaminated soil in Malvern and on behalf of Northwatch regarding decommissioning the Elliot Lake tailings area before a FEARO panel. He conducted a study for Concerned

Citizens of Manitoba regarding transportation of irradiated fuel to a Canadian high-level waste repository.

He was formerly Research Director of the Radioactive Waste Campaign, a public interest organization conducting research and public education on the radioactive waste issue. His duties with the Campaign included directing the research program on low-level commercial and military waste and irradiated nuclear fuel transportation, writing articles, fact sheets and reports, formulating policy and networking with numerous environmental and public interest organizations and the media. He is author of the Campaign's book on "low-level" waste, *Living Without Landfills*, and co-author of the Campaign's book, *Deadly Defense, A Citizen Guide to Military Landfills*.

Between 1981 and 1983, Dr. Resnikoff was a Project Director at the Council on Economic Priorities, a New York-based non-profit research organization, where he authored the 390-page study, *The Next Nuclear Gamble, Transportation and Storage of Nuclear Waste*. The CEP study details the hazard of transporting irradiated nuclear fuel and outlines safer options.

Dr. Resnikoff is an international expert in nuclear waste management, and has testified often before State Legislatures and the U.S. Congress. He has extensively investigated the safety of the West Valley, New York and Barnwell, South Carolina nuclear fuel reprocessing facilities. His paper on reprocessing economics (Environment, July/August, 1975) was the first to show the marginal economics of recycling plutonium. He completed a more detailed study on the same subject for the Environmental Protection Agency, "Cost/Benefits of U/Pu Recycle," in 1983. His paper on decommissioning nuclear reactors (Environment, December, 1976) was the first to show that reactors would remain radioactive for hundreds of thousands of years.

Dr. Resnikoff has prepared reports on incineration of radioactive materials, transportation of irradiated fuel and plutonium, reprocessing, and management of low-level radioactive waste. He has served as an expert witness in state and federal court cases and agency proceedings. He has served as a consultant to the State of Kansas on low-level waste management, to the Town of Wayne, New Jersey, in reviewing the cleanup of a local thorium waste dump, to WARD on disposal of radium wastes in Vernon, New Jersey, to the Southwest Research and Information Center and New Mexico Attorney General on shipments of plutonium-contaminated waste to the WIPP facility in New Mexico and the State of Utah on nuclear fuel transport. He has served as a consultant to the New York Attorney General on air shipments of plutonium through New York's Kennedy Airport, and transport of irradiated fuel through New York City, and to the Illinois Attorney General on the expansion of the spent fuel pools at the Morris Operation and the Zion reactor, to the Idaho Attorney General on the transportation of irradiated submarine fuel to the INEL facility in Idaho and to the Alaska Attorney General on shipments of plutonium through Alaska. He was an invited speaker at the 1976 Canadian meeting of the American Nuclear Society to discuss the risk of transporting plutonium by air. As part of an international team of experts for the State of Lower Saxony, the Gorleben International Review, he reviewed the plans of the nuclear industry to locate a reprocessing and waste disposal operation at Gorleben, West Germany. He presented evidence at the Sizewell B Inquiry on behalf of the Town and Country Planning Association (England) on transporting nuclear fuel through London. In July and August 1989, he was an invited guest of Japanese public interest groups, Fishermen's Cooperatives and the Japanese Congress Against A- and H- Bombs (Gensuikin).

Between 1974 and 1981, he was a lecturer at Rachel Carson College, an undergraduate environmental studies division of the State University of New York at Buffalo, where he taught energy and environmental courses. The years 1975-1977 he also worked for the New York Public Interest Group

(NYPIRG).

In 1973, Dr. Resnikoff was a Fulbright lecturer in particle physics at the Universidad de Chile in Santiago, Chile. From 1967 to 1973, he was an Assistant Professor of Physics at the State University of New York at Buffalo. He has written numerous papers in particle physics, under grants from the National Science Foundation. He is a 1965 graduate of the University of Michigan with a Doctor of Philosophy in Theoretical Physics, specializing in group theory and particle physics.

Dr. Marvin Resnikoff

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EXPERIENCE:

April 1989 - present **Senior Associate**, Radioactive Waste Management Associates, management of consulting firm focused on radioactive waste issues, evaluation of nuclear transportation and military and commercial radioactive waste disposal facilities.

1978 - 1981; 1983 - April 1989 **Research Director**, Radioactive Waste Campaign, directed research program for Campaign, including research for all fact sheets and the two books, *Living Without Landfills*, and *Deadly Defense*. The fact sheets dealt with low-level radioactive waste landfills, incineration of radioactive waste, transportation of high-level waste and decommissioning of nuclear reactors. Responsible for fund-raising, budget preparation and project management.

1981 - 1983 **Project Director**, Council on Economic Priorities, directed project which produced the report *The Next Nuclear Gamble*, on transportation and storage of high-level waste.

1974 - 1981 **Instructor**, Rachel Carson College, State University of New York at Buffalo, taught classes on energy and the environment, and conducted research into the economics of recycling of plutonium from irradiated fuel under a grant from the Environmental Protection Agency.

1975 - 1976 **Project Coordinator**, SUNY at Buffalo, New York Public Interest Research Group, assisted students on research projects, including project on waste from decommissioning nuclear reactor.

1973 **Fulbright Fellowship** at the Universidad de Chile, conducting research in elementary particle physics.

1967 - 1972 **Assistant Professor of Physics**, SUNY at Buffalo, conducted research in elementary particle physics and taught range of graduate and undergraduate physics courses.

1965 - 1967 **Research Associate**, Department of Physics, University of Maryland, conducted research into elementary particle physics.

EDUCATION

University of Michigan
Ann Arbor, Michigan

PhD in Physics, June 1965
M.S. in Physics, Jan 1962
B.A. in Physics/Math, June 1959

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

**In the Matter of
CFC Logistics, Inc.**

Materials License Application

Docket No. 03036239
ASLBP No. 03-814-01-ML

**DECLARATION OF KIMBERLY HAYMANS-GEISLER
IN SUPPORT OF PETITIONERS' MOTION FOR A STAY**

Under penalty of perjury, I, Kimberly Haymans-Geisler, declare that:

1. My name is Kimberly Haymans-Geisler. I am a member of Concerned Citizens of Milford Township.
2. On August 21, 2003, I attended a public meeting at Quakertown High School in Quakertown, Pennsylvania. The meeting was sponsored by the Staff of the U.S. Nuclear Regulatory Commission ("NRC"). The subject of the meeting was the NRC's proposal to issue a license to CFC Logistics, Inc. for a food irradiation facility in Milford Township, Pennsylvania.
3. The meeting was not officially transcribed by a court reporter, but was recorded on videotape by Kirk Rohn of GreenSky Recordings, who provided me with a copy.
4. Attached to this Declaration is a partial transcript of the meeting, which I prepared from the videotape. To the best of my knowledge and belief, the transcript contains a correct representation of the portions of the meeting that I transcribed.

Kimberly Haymans-Geisler
Kimberly Haymans-Geisler

September 2, 2003

**Transcript of Selected Portions of NRC Public Meeting
(Portions Focusing on Security Issues,
Nuclear Safety, and Financial Assurance)
Location: Quakertown High School
Quakertown, Pennsylvania
August 21, 2003**

NRC Speakers:

George Pangburn (GP) – Director, Division of Nuclear Materials Safety, Region I
John Kinneman (JK) – Chief, Nuclear Materials Safety
Francis “Chip” Cameron (CC) – Special Counsel, Office of General Counsel, NRC
Stephen Lewis (SL) – General Counsel, NRC

Introduction by NRC

GP: ___[beginning of the tape unclear]___ Our mission is to assure public health and safety, protection of the environment, common defense and security...in regulation of nuclear power plants and regulation of _____ uses of radioactive materials. And it is the latter we're here to focus on tonight: on use of radioactive materials. Our headquarters office is in Rockville, Maryland. We have four regional offices which include the King of Prussia office.

NRC ensures safety through four mechanisms: through rulemaking, through issuing licenses based on those rules, by assessing licensee performance, and by taking enforcement action when it is necessary.

As I mentioned, tonight, we're here to talk about the CFC application and our plans regarding this license. The license would allow CFC to perform underwater irradiation of a number of products including food items, cosmetics, pharmaceutical products at their Quakertown, Pennsylvania facility. John will talk in a little bit more in detail....Excuse me, with me tonight is John Kinneman who is chief of the Nuclear Materials Safety Branch 2. He and his staff have the responsibility for licensing and inspecting that facility. We also have a number of NRC staff from the region and from the Rockville office that I mentioned earlier here this evening.

What we'll do tonight is to provide a brief overview of the application, the facility, and discuss our process for licensing: how we looked at this particular application. We'll also talk about the inspections that we've done here to date and those that we plan to do. Our presentation will be about twenty minutes and then, as Chip mentioned, we'll open this meeting for comments with his assistance. We will answer the questions that you pose to us. There may be some questions, as I mentioned when I was here last time, related to security and to a hearing request pending that we may not be able to answer for reasons that I'm sure you'll understand. And I'll talk a bit more about that in a couple minutes.

In the way of background: we received this application in our Region I office in February of this year. And, since then, we've looked extensively at it. Mr. Kinneman is going to talk to you in

more detail about that. There are basically four things that we did. We did extensive review to make sure that the application had all the information that we needed. We did a lot of technical reviews and inspections at the Quakertown facility by John's staff and other people in the Region I office: people with backgrounds in health physics, electrical engineering, and geotechnical engineering, to name a few. Beyond those primary reviewers, we also did an additional level of review by engineering and other specialists in the regional office to assure that the review is technically thorough, and that we have looked at the unique engineering aspects of this design.

And, finally, Region I management, including myself and the regional administrator, Debbie _____, made visits to the facility over the past several months. We continued our review after the meeting of July 16th when I was here and considered carefully the concerns you raised at that time. We believe that our review, the overall licensing approach that I've just spoken about, has considered those concerns. We're going to listen carefully to you this evening, and we will report back to NRC senior management about what we hear tonight.

We understand that many of you don't want to have the facility here. However, I hope you understand that it is not NRC's role to decide where a facility is located but to make a determination that, wherever it is located, that it can be operated safely and securely.

As I said when I was here in July, we've devoted substantial staff resources to looking at this application, both from a health and safety standpoint, and a security standpoint. CFC, who is the applicant in this case, has been responsive to our requests for information and, at this time, we have no outstanding questions for them. Our conclusion is that CFC has met our requirements for a materials license and, therefore, we are required by statute and regulations – we anticipate issuing that license to them in the next few days. As Mr. Kinneman will talk about in more detail, we will have NRC inspectors on site during the initial loading and testing of the irradiator, as well as during early stages of operation. We will also perform periodic, unannounced inspections after that. And ____ that inspection process identifies violations, we have a range of sanctions we can apply. Those include, on one end of the spectrum, issuing a notice of violation that requires the licensee to take corrective action and, on the other end of that spectrum, to civil penalties or criminal penalties, as well as orders to shut down the facility.

As I mentioned a moment ago, NRC received a request for a hearing on this case on June 23rd of this year. It included a number of concerns from citizens about the CFC irradiator. That request has been referred to an Atomic Safety and Licensing Board panel and a presiding officer has been appointed in the case to consider the request. But, because this request is under active consideration, we really won't be able to discuss the issues in that hearing here tonight.

As a mentioned a few moments ago, the NRC is responsible for a wide range of activities which include licensing everything from nuclear power plants to laboratory instruments that contain very small amounts of radioactive material. This range of risks that we look at calls for a very thorough, but tailored, licensing approach. For issuance of the license that CFC has requested, this process doesn't routinely include a hearing. But our regulations in 10 C.F.R. Part 2, the NRC's overall regulations, allow for parties to request an informal hearing in such a case.

The important point I'm getting to here is that the request for a hearing doesn't hold the staff's decision on issuing a license in abeyance. So the staff can proceed to issue the license while the request for the hearing is being considered in a separate, but parallel, path.

With respect to security, it's one area we've given a lot of attention to, and we're going to continue to do so. We can't talk about security details at this facility or others like it in a public forum. To do that might provide sensitive information that could compromise the facility after it's issued a license.

There are three points I'd like make in this regard. In response to the events of September 11th, NRC embarked on an extensive review of its security program and has taken certain steps to enhance security at licensed facilities. These have included such things as threat advisories that call on licensees to take certain prudent measures to enhance their security posture. We have also issued orders to licensed underwater panoramic irradiators that will require them to make certain procedural and facility changes to enhance security. We plan to issue a similar order to CFC Logistics shortly after a license is issued. CFC will be required to respond to the order in writing, as are all other recipients of this order, and we will inspect their implementation of the order.

It's also important for you to know that, as part of the community of irradiators around the country, they have been generally aware of the security considerations that NRC is undergoing at this time and have built several of them into the design, construction, and procedures of this irradiator. At this point, I'll turn it over to John Kinneman. John will talk some more about our licensing and inspection review of this application.

CC: _____ [comment unclear]

JK: Thank you, Chip. Thanks, George. Good evening. For those of you who were here in July, I appreciate the opportunity to talk to you again. For those of you who are here for the first time, I appreciate your coming out tonight so we can talk to you. As George said, I am the chief of the Nuclear Materials Safety Branch. And I work for him in Region I doing licensing and inspections on facilities like this and other facilities that use quite a bit of radioactive material.

Tonight I will be brief. I'll try to give you an overview of the CFC facility first, for some perspective. I know many of you were here the last time; we went over that. But some may not be - might not have been. So I want to describe the facility a little bit...and the review of the application that we've conducted. Then I want to go on and describe the inspections briefly that we've done and talk about the inspections that we will be doing. So, for just a moment, I'll talk about the fact that CFC Logistics, who is the applicant in this case, has located the irradiator at their refrigerated storage warehouse located over in Milford Township, not far from here near the Turnpike exit.

The license will, if issued, authorize them to use doubly encapsulated cobalt-60 to irradiate food, cosmetics, pharmaceutical products, and other items. The irradiator itself is located in an enclosed area within a large hall, one of several that are in part of the cold storage warehouse. Access to the irradiator enclosure will be restricted; this facility is equipped with intrusion locks. We know that security is a very significant danger to many people. CFC's license will require

that the irradiator consist of a double-walled pool which will contain shielding water to shield the gamma radiation. The pool itself is largely below the floor. The inner and outer walls are about six inches apart and reinforced with 6-inch steel I-beams. The space between the walls is filled with concrete. The reason I go through that description is that the design makes the pool very strong and very robust. And that's one of the things we'll be talking about in answering your questions.

The radioactive material itself will be placed in a source container, which is called a plenum, at the bottom of the pool, and will remain there at all times during routine operation. A trolley and hoist system will lift product containers, which are called "bells," and place them into the pool for irradiation, lower them down next to the radioactive material for a specified period of time, and then remove them so that the product can be put to whatever use it's intended to. It's important to keep in mind that irradiation by cobalt-60 in this fashion does not make the object irradiated radioactive. The radioactive material contains a doubly-encapsulated, stainless steel container and the radioactive material itself stays there. Only the energy comes out and goes through the product.

Now I'd like to move on to the review of the application, as I promised. When we received the CFC application, we began an extensive review. The reason we do an extensive review on these types of applications is that these are important facilities. When we conduct such reviews, we have a couple of objectives. As George has mentioned, they're so important that I want to go over them again. Our principal focus is to assure that the facility will be safe for the workers who work there, the public that lives and works around it, and the environment that _____. In order to do this, we review the application against specific parts of our regulations and specific guidance is directed making sure that all of our facilities – all licensed facilities – meet those criteria.

I'll just mention briefly two of those regulations. One is called Part 20 -- provides the basic radiation protection standards for this country. It is used pretty much all over the country, and it specifies dose limits for workers, members of the public, and the limits for release of radioactive materials into the environment. Our reviews have convinced us that this facility will operate well within the limits in Part 20. In fact, we expect that the doses to the public in the boundaries of the facility will be very difficult to measure. They will be very low – a small fraction of the allowable limit. Because these are important facilities, we have a special part of our regulations that focuses on them; we call that Part 36. That part provides for specific requirements for irradiators like this one and is based on a detailed review of the operational history of irradiators from the beginning of regulation by the Atomic Energy Commission and then the Nuclear Regulatory Commission. Again, our review has convinced us that this facility meets the special requirements contained in Part 36.

[Crowd discussion in background]

CC: ...Let's let John finish his talk and then we'll go back to you....

JK: I just want to go over a couple of the important aspects that we recognized early on about this irradiator. The design is such that it is an underwater irradiator. Many of the other irradiators

that we licensed – the radioactive material comes up into special irradiation rooms and we believe that those operate quite safely. But in this case the radioactive material will not move; it will remain shielded under the water. And that makes many of the safety requirements for other kinds of irradiators unnecessary in this case. The sources, while they are designed to be in contact with the water, in this case are not in contact with the water. They're in a specially-designed, separate plenum which creates an additional barrier to the release of radioactivity into the environment.

The design does include the use of an overhead trolley and hoist system which carries heavy loads over the pool. And this does require some additional attention during our review. So there are a number of features that are – move into the direction of additional safety, they're the ones we thought really needed additional review. As we did the review of this application, we visited the facility regularly. It's always much easier to see what something looks like when you actually can go to see it rather than just trying to understand it from the diagrams. We work very hard on the diagrams but, by being able to visit the facility, you get a better picture of it in your mind, and you're also able to ask questions and look at details.

And so we sent health physicists to look at radiation exposure – and control of radiation. We sent civil, electrical, and geotechnical engineers who focus on construction, design, and operation of the specific [substances] of the facility. We examined the multiple barriers around the sources that prevent the release of radioactive materials into the environment and control the radiation levels. These barriers include the double encapsulation that I've talked about – the plenum which protects the sources, the double steel walled tank that forms the pool. Our engineers' on-site inspections led them to conclude that the facility has been built as it's described in the application and that the irradiator can be operated safely. I want to talk just a little about a few items in the review and then I'll close up on the review.

We did review the wide range of safety issues that include the following:

The adequacy of the shielding of the sources. We look at that to ensure that there is, in fact, sufficient shielding. In short, there's procedures to maintain the water in the pool to assure that continual monitoring for radioactivity in the pool water and in the air which continues to pass over the sources to assure there's constant radiation monitoring over the pool. All of these would serve to detect either a leak or a change in the facility which would indicate a hazard is developing. We happen to believe that the facility will not develop such a hazard but we require that there be a system there to detect them if they should develop. We review the security measures that will be used to control access to the irradiator and we looked at the training which will be provided to people who operate the irradiator. We review the inspection and maintenance procedures of the facility. We talk to the applicant about the planning they have done for receiving and disposing of the sources first when they need them to begin the use of the irradiator, and for what they're going to do with the sources when they're finished with them.

Even though we've concluded these scenarios are very unlikely, we look closely at the seismic risk of this facility and what might happen if there was an earthquake and what might happen if a heavy load would drop near or on the pool and we've assured ourselves that the pool is designed and constructed in such a way that it will not be significantly damaged by such events.

[Significant noise, including booing, can be heard from the audience.]

I'll be finished in just a second. I understand.

CC: You'll have an opportunity to ask questions about that.

JK: And recognizing that many people will not agree with us, we did an internal review. We had other people look at our conclusions to see if they stood up against somebody who had not done the initial review. We had other staff in our office look at that and they have thoroughly reviewed our conclusions and agree with our conclusions.

At the meeting in July – I'm aware of the depth of your concerns. There were a number of issues raised by many of you sitting here tonight. We have looked very carefully, we listened very carefully to the issues raised during that meeting. We made sure that each one of them was incorporated into our review, has been part of our review – in that we were giving new attention to each and every one of them. And so we believe, at the point, we have looked very carefully at every issue that we can identify, and every issue that's identified in our regulations and guidelines, and completed that review. We plan to continue to perform careful inspections at the facility, to assure that the facility continues to be constructed and operated in accordance with the requirements in our [license] and our regulations. We appreciate your willingness to come here and listen to us tonight, and we look forward to answering your questions.

CC: OK, Thanks, John. There's one important thing that George mentioned that I know all of you are going to be interested in. He mentioned the hearing. This argument that's going to be conducted by the Atomic Safety and Licensing Board. I just wanted to give you a little bit more information on that. That is going to be on September 10th. OK, it's going to be from 5:30 to 8:00. It's not a public meeting like this. It is a public hearing. It's an adjudicatory hearing where an administrative judge from – [interruption from CCMT's counsel, Bob Sugarman] I just want people to hear what's going on. It's going to be an argument before an administrative judge. It's open to public observation but not public comment. You are going to be hearing arguments from the parties – from the people who are trying to become parties in the case. And I just wanted to add that I also want to introduce your representative, Paul Clymer, this district's state legislator. [Applause from the audience.]

We'll get started down in this corner with chunks of questions and then we're going to go up this aisle to people who have questions and comments, and then we'll swing around here and we'll start trying to catch everybody.

[Question from audience member about location of oral argument.]

They are still looking for a location – a courthouse in the Allentown area. There will be a press release up here in the newspaper that will specify where that is. We'll put it in all of the papers so that everybody can see it, OK? ...It will be in all the papers.

[End of NRC Introduction]

Q&A

Jack Sutton: [loud and lengthy applause from audience as he rises] My name is Jack Sutton; I live in Milford Township. I've talked to you guys numerous times about drop tests. I've called your office. You got six-inch walls in the tank. As a builder of thirty years, when we build houses we use over ten, twelve-inch walls. Hydrostatic pressure in this area -- you've got water tables six, eight feet in the ground. I don't know whether you've taken into your calculations hydrostatic pressure or not...Last time we talked, you talked about these objects that go over top of this tank are two to three tons. How heavy are the objects that carry the irradiation and cobalt-60? When they're initially bringing these objects in the canisters, what do they weigh? Not the food going down, you understand --

JK: Are you talking about the casks?

Jack Sutton: Yes, lead casks: what do they weigh?

JK: They're somewhat heavy. Depending on the exact design, they're either somewhat heavier -- about six to seven thousand pounds, and may be up to thirteen thousand pounds.

[loud background conversation heard in the audience]

Jack Sutton: So they're significantly heavier than the food being dropped down into the

JK: No. They're not significantly heavier. They're either about the same weight or twice the weight.

Jack Sutton: Have you done drop testing on them? I understand....

JK: Wait! If the question is: has there been drop testing done on the cask, those casks have been either subject to engineering analysis or an actual drop test itself to make sure that they survive the drop.

Jack Sutton: I'm not asking about the cask, I'm asking about -- on the tank. No drop testing's been done?

JK: No.

Jack Sutton: You know, we crash airplanes, we crash cars...So you're saying that you guys are doing a drop test analysis?

JK: We're doing, we did an engineering analysis by qualified engineers that concluded that they believe that, if that were to occur (bear in mind that we believe that it is not a real likely event) that the pool will

Jack Sutton: Don't make me ask you that question if you can guarantee that or not! We went over that before.

JK: We went over that before...

Jack Sutton: Nobody can give you an absolute guarantee to God. You may well think. You don't know. So, we've got to be prepared.

GP: Our focus in looking at that was two-fold: First off, we looked at four scenarios. And the focus of those scenarios was two-fold. One: to assure ourselves that, if something fell onto the pool, that it would not result in catastrophic leak of water from the pool. Secondly, that the sources themselves would not be damaged.

Jack Sutton: Well my problem is: if you drop thirteen – seven-ton objects on that stainless steel, which hasn't been done (you've done analysis) – and it splits the seam, and somebody's replacing the rods...Now you've got a scratched rod. Now you have corrosion. Now you have radioactive water, because of that corrosive material. Your filters are going to be contaminated. Now it's going to leach into the water table. As I said, when I dig a basement in this area, I hit water at six feet every time. The Unami – the Molasses Creek is probably a thousand feet from here – max.

JK: Well, I think you've made an enormous leap. Our conclusion is that, if you drop the object on the pool, that the pool will survive and that it is not going to split a seam, and that the water is not going to leak. And that you also made another leap, which is that the object will contact the sources and damage the sources. And I don't think that....

Jack Sutton: I'm talking insulation: if you just scratch a rod.

JK: Well, I don't understand how you'd scratch a rod with insulation.

Jack Sutton: By attaching it to the plenum. If someone scratches the surface of the

JK: Well, no!

Jack Sutton: Couldn't it oxidize?

JK: Well, the pencils are designed to be handled in the way that they would be handled. They're handled in other irradiators exactly as they are expected to be handled here. And we haven't seen...In fact, one of the things that was done when Part 36 was developed was a number of improvements in the qualification of the sources to assure that they would stand up to the environment in which they would be placed.

Jack Sutton: As I understand, Milford Township has written you letters also about drop testing: third-party *actual* drop testing.

JK: Yes, they have.

CC: George. Did you have anything to add to Jack on drop testing, and will there be any written documentation available to people who want to look at the drop tests – and then let's go on to your next question, OK?

GP: A couple things. One is we looked at four scenarios. We looked at a drop that would be on the lip of the pool, that would be straight across the pool, when the product containers would go straight down. We looked at a drop that would be over the _____ bar that goes over the middle of the pool. And we looked at a drop that would be away from the pool: not near any of the radioactive sources, on the concrete floor.

Jack Sutton: But no actual drop tests.

GP: That's correct, Jack... That's correct.

Jack Sutton: All right. The next one is my understanding of this release of radioactivity into the air.

GP: Excuse me?

Jack Sutton: The release of radiation into the air.

GP: From what?

Jack Sutton: From the plant. You just stated that you got minimal release – that can hardly be detected.

GP: Oh no, no. We're not talking about release. We're talking about dose rates from this facility at the boundaries. And the fact of the matter is, they should be indistinguishable from what's there right now.

Jack Sutton: But there could be some kind of releases in a reasonable amount.

JK: No!

GP: It's difficult to imagine a scenario in which this facility would result in a release of anything to the environment.

Jack Sutton: Even loss of power and pressure?

GP: Tell me how.

Jack Sutton: In New York City. [Loud cheers from audience.]

JK: Jack, I'm not sure I'm following your question. Even if power is lost, how are you thinking that radioactivity would be released from this facility?

Jack Sutton: Well, air pressure....

JK: Even without the air pressure there won't be a release of radioactivity because radioactivity is contained by the barrier around the pencil.

Jack Sutton: OK. You've now lost power. How are you going to keep pumping to keep it cool? There's no power grids at all.

JK: No. I think that's perhaps something we should be very clear about. While the facility is designed with a number of features that circulate water and air, none of them are required to maintain the integrity of the sources. The sources are designed such that they can remain sitting in a pool of water, or sitting in air -- without any supporting systems -- for a period of time. They won't melt, they won't overheat, they won't split. They're designed such that you could take this pool of water, set them into the pool of water and turn off the systems and it would remain safe.

[Loud discussion in audience.]

CC: John, do you want to repeat your last comment for the people?

JK: The sources are designed to either sit in air or in water for essentially indefinite periods of time without deterioration. The quality of the water -- it is important to maintain that over long periods of time, but the water will not go... Basically, what happens is, minerals build up in the water and that may induce corrosion over a period of many years. But certainly there would be no change in the quality of the water over a period of a few days, or even weeks.

Jack Sutton: A half life over five years. So you're familiar with that term? Then in five years these rods are half the strength. You're going to need to change the rods.

JK: They may.

GP: They'll need to from time to time, yes.

Jack Sutton: OK. So they're going to take these rods out and put new ones in.

JK: They may or may not. It's their choice.

Jack Sutton: Well, if they're only worth half the strength, I mean, it's commonsense they're going to get half the product done. They're going to lose time and money.

JK: Well, they may -- what they may need to do is add the material; they may not remove the material.

Jack Sutton: Well, how many can you put in there before you run out of room?

JK: I forget the exact number, but there's a fair amount of space.

GP: I think, Jack, we need to operate under the premise that the plenum will be filled in the beginning, and I don't believe that's the case.

Jack Sutton: Well, if you get up to a million curies that's going to be full, right?

JK: I don't believe so -- no.

Jack Sutton: I believe -- I thought -- that was full strength -- a million curies.

JK: Yes, there is a million curies. However, I believe that would only be about forty pencils and I think there's room for substantially more.

Jack Sutton: I've talked to other people -- physicists. And they say that when they become half life a lot of times people change them -- sometimes to replenish the strength so they do not have to put them in as long. So, when they take them out of this unit, they're in these lead canisters and they're stored in the building?

JK: No. Normally, they're returned to the manufacturer.

Jack Sutton: That instant?

JK: They don't always have to....

Jack Sutton: Well, is there a reasonable amount of probability they're going to be sitting next to the tank for two days?

JK: For some period of time.

Jack Sutton: For some period of time. Now we have a building. I've looked at the building plans _____ the township. This building is built to minimal standards and you guys, yourselves, on the phone have told me you only require minimal standards for the building because they're in the water.

JK: OK, but at that point they'll be stored in a storage cask which is fully qualified to hold them. In fact, they're probably just as strong as....

Jack Sutton: After what causes though? Natural causes?

JK: Yes.

Jack Sutton: Forces?

JK: Yes.

Jack Sutton: Explosions?

JK: Yes. In fact, it was designed to accident qualifications for transportation.

Jack Sutton: So these things are sitting out of the pit in their canisters and a tornado comes by. Since the roof's only guaranteed to a 75-mile-an-hour wind. And it's in the middle of a standard building, the building's gone. We all know a tornado: the building will disappear. You've just blown your _____

JK: But these will weigh seven- to thirteen-thousand pounds.

Jack Sutton: On a truck – a big tractor-trailer _____ down the highway. We know a tractor-trailer's 70,000 pounds.

JK: But these are qualified through engineering analysis and actual drop tests to survive those _____.

Jack Sutton: _____ change in _____. A storm comes through there and takes this building out. We have a problem. I mean, the structure around this facility is minimal standard.

JK: What's the problem you have?

Jack Sutton: Natural causes is my big problem.

JK: Define the radiation hazard that has been generated.

Jack Sutton: _____ being thrown off-site.

JK: I don't think they've moved yet. The building's moved.

Jack Sutton: You didn't answer my question, though.

CC: That's OK. We're going to go to Michael next. But we're going to get an answer to the question. [Applause as Jack takes his seat.] The question was: the storm – a tornado -- comes and blows the building down. What happens to these casks that are sitting there; what is most likely to happen? As soon as we answer this question, then we'll go to Michael.

JK: Well, I'm assuming that – what I believe you followed up with – is that the material, the sources have been removed from the pool that are now in the shipping cases -- cask -- ready for shipment and the truck hasn't arrived yet to take them away. So they're sitting on the concrete floor in a large – well, in actually a relatively small, heavy cask. They're not as large as the _____. They're about this big around [shows size] and this tall [shows size] and it weighs – it's very heavy. I don't know if a tornado that comes through this area would move that cask or not. But I do know that the cask is designed and tested to survive a series of accidents that are specified in the transportation regulations which include impact and fire.

Jack Sutton: [inaudible question]

JK: I'm sorry? I don't believe it's credible that canister will fly into the air, Jack.

CC: All right. Let's go to Michael Thomas.... [Applause for Jack.]

Michael Thomas: It's my understanding that the office of Homeland Security considers these types of irradiation facilities as very likely terrorist targets.

GP: I've seen nothing from Homeland Security that says these are "likely terrorist targets."

[Loud outcry from the audience.]

Michael Thomas: I guess this _____ next as to why the NRC has not tightened up its standards post-9/11?

GP: And, as I said to you earlier, we have already put into place security requirements at irradiators that are in the process of being implemented at every irradiator in the United States: pool and underwater irradiators, and panoramic irradiators. And, as I mentioned earlier, when we issue the license to CFC they will receive an order from NRC's nuclear security and [incident] response office. They'll be required to respond to that in writing. They'll have until December of this year to put the measures into place and, frankly, many of those measures are already into place because CFC, as with other irradiators, took part in the briefing by the NRC staff as to the kinds of things that are going to be needed to put into place to provide additional security at irradiators. They're the first group of licensees, outside of power reactors – and decommissioning reactors, to have additional security orders put in place.

Michael Thomas: Because, at the last meeting you told us only what is required is that it be under lock and key. So I mean, in terms of security, it was pretty minor.

GP: I told you what I just said a few moments ago.

Michael Thomas: Is that something that is just in? Is that a brand new requirement?

GP: These orders that I just spoke about? I told you. I went through these exact points at the last meeting.

Michael Thomas: At the last meeting we were told there was minimal security.

GP: I don't think there is minimal security. I can tell you the fact that, I did speak at the last meeting about these same steps and told you that, if we issued a license to them, very shortly thereafter we expected to issue an order to CFC to put the same requirements in place. And that expectation is the same today as it was then.

Michael Thomas: If an applicant files for an irradiation facility and meets your requirements and then the applicant comes across a _____ credible and misrepresentation along the process, to what degree do you take that under consideration? The fact that the applicant lied during the process and made a misrepresentation.

[Audience applauds and someone yells, "No license for liars!"]

Michael Thomas: My big concern is that we are letting a company become a custodian of ultra-hazardous material that could kill the whole community, and this company has not proven worthy of being allowed to....

[Huge cheers, chant: "No license for liars!"]

CC: Excuse me. I know, obviously, you don't like this, but let him answer the question, please. OK. George, can you answer Michael's question?

GP: I'm sorry. Can you repeat the question?

CC: His question was, is that – Michael is alleging that...

Michael Thomas: Let me give you a little bit more information so that we're all clear. Mr. Wood, president of CFC, has repeatedly said to the press that, prior to September of 2002, he did not plan to have an irradiation facility. And in a letter to our attorney, Mr. Sugarman, he said actually they haven't considered it prior to December. So there's just a lot of inaccuracies in communications that we have received from a variety of sources. And also there is a serious question mark over the informational – or lack of informational -- exchange at the zoning hearing board meeting.

GP: I'm going to separate these two processes for you right now. There's a zoning process here. CFC – can I finish what I'm saying?

CC: Mr. Sugarman, please don't do this! You will get the chance....

GP: Look. There are two processes going on. CFC (if you'll let me finish the question) was pursuing a zoning issue with Milford Township at or about the same time they came to us for the license application. Those are separable processes. We did not weigh in on zoning matters. How come? Because, it is the licensee's responsibility to make appropriate permits to get appropriate ordinances and comply with local ordinances. [Audience member yells.] Excuse me. I'm getting to the second part of this question. We have seen nothing in the process NRC has had in any of the documentation or the representation that the applicant has made to the NRC that has called into question their credibility or veracity. You're presenting it to me in a forum that is completely outside of NRC's jurisdiction.

Michael Thomas: I think this very point has actually been raised by the Township to the NRC so it probably carries even more weight coming from the Township because the Township is clearly the body that is....

JK: Well, I think– let me try to add a little bit here to the answer. I understand the concern you are presenting. But I think George was quite correct. We have a process for looking at only the activities for which we are responsible for regulating. And one of the reasons that we recognize

that the zoning issues are local issues is they're ones that are best handled at the local level. And so, when we put Part 36 together we made it clear that we weren't going to be part of that process. Part of our process when we look at an application is, in fact, to -- for reasons that have to do with inspections -- is to assess whether the applicant has sent us information that is correct and is reliable. I think that is what George is trying to say is that we have examined that information and we find it correct and reliable in the area that is within our purview.

CC: OK. I think this gentleman summed it up (pointing to an audience member). Integrity issues. I think this point has been made. It's something that is before you to consider. If a presenting type of falsehood -- whatever -- anywhere in the process, (I think people were saying) does that have to be considered? I think the point has been made. OK, Michael? Another question? Go ahead. [Loud applause.]

Michael Thomas: It probably wasn't that long ago that you sat in front of the folks in Concord, Massachusetts -- I think this is the NRC Office I -- and gave assurances that _____ NMI Corporation was engaging in the processing of depleted uranium, and that was going to be safe, and the community wasn't going to be impacted and that you had done all your research and the facility was _____. But then we find ourselves in the situation today where the cleanup, according to the company's own estimates, will exceed \$13.7 million. There is a \$750,000 letter of credit available, and nobody is touching it and dealing with it because it's become a "hot potato." How can we be assured that we won't be dealing with the same situation here and, particularly, given that you've only asked CFC for a \$75,000 bond?

[Loud applause.]

GP: \$75,000 is the current requirement. NRC's regulations are in the process of changing to expand.

Jack Sutton: [comment inaudible]

GP: Can I finish, Jack. Just one? Just give me one! OK? \$75,000 is the requirement for the letter of credit, maturity bond, financial assurance [mechanism] for irradiators right now. The regulations are in the process of being changed and all irradiators that NRC regulates around the country will be required to come in with a site-specific cost estimate. And that estimate will be the licensee's best estimate of what it is going to cost to clean that facility up if they were to go bankrupt.

Jack Sutton: \$75,000?

GP: Right now it is \$75,000.

Jack Sutton: [question not audible because no microphone available to seated audience member]

[Discussion in audience]

JK: Well, I'm not sure that the fact that they're able to buy a bond for one percent of the amount is the problem. Because what happens is, if the bond is needed, the person providing the bond will pay the total amount.

Michael Thomas: Then, I guess the answer to my question comes down to, given that we have clear precedent here that, when things go wrong, the amounts are significantly larger than the collateral that's there to clean it up. How can we be assured that we, as a community, won't be left paying the tab?

[Loud applause from audience]

GP: I can't speak to the ____ case. I don't know the specifics at NMI. I think you mean Nuclear Metals Incorporated which is now in Massachusetts, an agreement state. Massachusetts has the responsibility for that. But, I'll be frank. The NRC's requirements for decommissioning and financial assurance have been improving over the years. For a long time, we didn't have any program in place. And many of the sites like Nuclear Metals are sites that are legacy sites -- where there's materials that built up in the early years of use of radioactive materials and they simply didn't have financial requirements in place. That's no longer the case. What I'm telling you tonight is: CFC has been required to put up a \$75,000 bond. Whenever regulations change, they'll be required to come in with a cost estimate to specify what it will take to clean up this facility. We will have that reviewed by independent auditors in Washington to make the determination whether that amount seems appropriate. And then they'll be required to have a bond, letter of credit, parent company guarantee, or whatever the appropriate instrument is to assure that, if that happens, the NRC can take that money, put it in the hands of a third-party trustee who will effect a cleanup at the site.

Jack Sutton: [comment not clear]

GP: Jack, let me finish. What I'm telling you is, right now CFC has what NRC requirements are: \$75,000 down.

CC: OK. We're going to go to Max for a question. Then we're going to go to Mr. Sugarman, Mr. Klein, and then we're going to go to this woman who has been patiently waiting....

Max Geisler: Hi! My name is Max Geisler and I'd like to update you on the NMI Massachusetts situation and then I'll ask a question. OK. The current situation at NMI Massachusetts is that it is a Superfund cleanup site. Now, I spoke with a physicist who did some research -- who did some analysis -- of surveys taken in that area this morning. And he describes you specifically, Mr. Kinneman, and your office as "spineless" in enforcing NRC regulations [huge applause from audience] and he also said that the community had a \$750,000 bond to clean up that spill; that your department denied the spill was in the groundwater -- excuse me, denied that it was in the bedrock below the site. It is in the bedrock below the site. It's moving twice as fast as the company said it was moving. But that's irrelevant because the company went "belly up." The community spent the \$750,000 dollars, ran out of money, and now they have a debate in their community over the past few years whether to list it as a Superfund cleanup site because they were so concerned about property values dropping if that happened. So here's the question: How

did you arrive at such a ridiculously low bond number of \$75,000 for a plant whose water table characteristics are unknown and whose pit has not been tested?

[loud cheering in audience]

CC: OK. We're going to go to the NRC for a response to Max's question. George or John? Whomever you prefer.

JK: OK. I'll take a shot. First of all, I'm not going to do the whole NMI case because that's not what we're actually here to talk about.

[Outcry from audience.]

CC: Please let him answer the question. Let's hear what the answer is.

JK: As George said, the Nuclear Metals case was a facility that started many, many years ago – well before there was the same standards that are in place today. All right? That's simply the fact of the matter. At the time, Nuclear Metals began processing depleted uranium. The settling ponds that they were using was, in fact, the then "current" way that things were done. That's not to say it was a good way of doing things. We certainly would not permit that today.

Audience member call-out: Twenty years from now, you'll be saying the same thing about this.

[Audience cheers.]

JK: That's largely the way we work as human beings. We learn things and try to do better. I think...it's very important to keep in mind that at the Nuclear Metals facility they were discharging loose, radioactive material into the water, into a settling pond. That is substantially different than the facility we're talking about here in Milford Township. At the facility in Milford Township, the radioactive material is contained in doubly-encapsulated sources. It's identifiable. You can pick it up and move it into the casks we've been talking about, and move it off site. It's a substantially different situation than is at Nuclear Metals.

CC: OK. All right. We're going to do one quick follow-up with Max, and then we're going to go to Mr. Sugarman because we need to get out to all of you with questions. Max, quickly please.

Max Geisler: Yes, to clarify. My question has less to do with the NMI site than with the record of *your* office and *your* record personally, OK? For two years, you refused to revoke the license of NMI and threatened them with that. And during that period of time, you personally allowed them to continue doing business in Massachusetts while this site got worse and worse – and while they went "belly up" financially.

Crowd (in unison): WHY??

CC: We're going to see if there's an answer. John, do you have anything else to say on this before we go to Mr. Sugarman...

JK: I'm not sure there's a productive answer to that question...I'll give you an answer. At every time, during the time that I worked with Nuclear Metals, I did the best job I could to follow the rules...Wait a minute! You're going to have to accept the fact that it is the same as every one of you doing your job. I applied the rules as best I could to try and get Nuclear Metals to protect their workers. We focused and did a lot to improve the safety of the workers. We did a lot to improve the safety of the environment up there. Is it a perfect job? By no means....

.....

* * *

[Break in proceeding]

Bob Sugarman: Yes. I'm the lawyer for the group, and for the citizens that have filed the proceeding. And what you're telling us is that you're going to issue the license in the next few days. And you tell the people here that there are two parallel processes, and your power to issue the license is not tied to the review by the court. My question to you is: acknowledging that you must -- that you do have the power to withhold the license, pending action by the court....

GP: We don't.

Bob Sugarman: You do!

GP: We don't.

Bob Sugarman: You don't have to issue a license.

GP: The applicant....

Bob Sugarman: Wait a minute. Can I finish my question? [Outcry from audience and applause.] What you said is...You've said a few things tonight. You've said that there's no drop test. You said that the security measures that the Commission deems appropriate are not yet in place -- they won't be in place until December. You've said that the bond amounts that are called for under the Commission's present regulations are inadequate, and they're being changed and that means, as we all know, that they *may* be changed or the Commissioners may vote -- or so many other things can happen that they won't be changed. So, you've acknowledged that they are inadequate as of now; everybody here heard you acknowledge that they are inadequate as of now....

[Strong applause.]

You acknowledge that the rules that are in place now, which are the same rules that were in place at the time of Nuclear Materials (sic) do not prevent situations like occurred at Nuclear Materials (sic). I grant you that the engineering standards at the established time may have changed. But, the rules are still the rules. And what the rules do not say, contrary to your representation, the rules do not say you must assure safety. The rules say you must "minimize dispersion." "Minimize dispersion" means you accept some dispersion. So, given all those factors, given the

fact that the township has told you that this facility is not authorized to operate this nuclear facility – and I'll give you one more fact that has been reported and that you can deny (it doesn't really change things; it just puts the icing on the cake) – that CFC has sued the Township to attempt to undo the Township's zoning authority. Given all those factors, are you willing to either withhold a permit or agree to a stay, so that the licensing board can hear the evidence that we want to present, and we can have a decision that is not made by the staff, or its peer-review colleagues in the same office. Will you agree to such an action? Either withhold the permit or agree to a stay.

Now you've got your lawyer here who's handling the matter before the court. You've talked about proceeding before the court, but they are not binding on you as a staff. But, since your lawyer is here, I'm asking you that question because it's going to determine what I do on behalf of the people – as to whether you will agree to withhold the permit, or agree to a stay, pending action by the licensing board.

CC: There were a number of statements that Mr. Sugarman made -- but the bottom-line question is very clear.

GP: Let me try this, perhaps a little different approach. I talked earlier about materials licensing in general. We have about 4,500 materials licensees under NRC; in agreement states it's about 15,000. They're people that do everything – from hospitals where they treat cancer to people who use gauges in their everyday work. In fact, I wouldn't be surprised if Mr. Sutton might someday find himself involved in work that might involve a portable nuclear gauge.

Jack Sutton: Get out!

[Crowd uproar.]

GP: My point is, anybody that comes to the NRC for a license expects reasonable assurance – excuse me, expects a predictable process. If they come to us, and they meet our standards, the Act calls for us to issue them a license.

CC: Hey Jack! Come on, Jack! Let him answer the question!

GP: In this case, we have looked at what CFC has provided and we believe they have met our standards.

Jack: G1, G3 -- manufacturing!

GP: It's not my standard, Jack!

CC: Jack! Let's get to the answer!

[Loud outcry from audience.]

CC: Jack. Give other people a chance! He's trying to get to it...And you're interrupting him!

GP: What I'm getting at is: no, I don't ...No, the staff doesn't plan to stay this license. This applicant has met our requirements.

[Audience boos; Bob Sugarman walks out and audience cheers.]

[END OF TRANSCRIBED PORTION OF THE NRC MEETING]