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June 11, 1985

Mr. Jack Davis  
Nuclear Materials Safety Section A  
Division of Radiation Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
631 Park Ave.  
King of Prussia, PA 19406

RE: Docket No. 030-21260; Control No. 103803  
Your letter of May 30, 1985, concerning ECOGEN'S By-product Material License Application

Dear Mr. Davis:

This is a reply to the referenced letter. The Item numbers correspond to those in the letter.

- Item 1. Air monitoring is required only when Iodination procedures are performed. All other radioactive material is non-volatile. The details of the Iodination procedures monitoring are described in our response to Item 2, below. Our contamination survey procedures are described in Attachment V, Appendix IV of the application, "Laboratory Survey Procedures".
- Item 2. Iodination procedures will be done rarely, if at all. They will be performed by Dr. Levinson or under his direct supervision. The Iodination procedures will be performed in a special Iodination mini-hood located within a laboratory hood. The mini-hood is equipped with an activated charcoal exhaust filter to trap volatile Iodine released during the procedure. The adequacy of the trap will be checked by the procedures described in Attachment V, Appendix IV, "Iodination Monitoring Procedures", a copy of which is enclosed. This section was inadvertently omitted from the Radiation Safety Guide in the application, and is to be inserted after page 25 of the Guide. Thyroid Iodine burdens will be monitored as described in Attachment III of the application. If the measured thyroid burden exceeds 10 nCi, a complete review of the Iodination procedure will be undertaken to find the source of the burden. These procedures are more restrictive than those of Regulatory Guide 8.20.
- Item 3. As stated in the cover letter submitted with the application, Dr. Christman is our consultant. He will be "on call" to Dr. Levinson during the period of implementation of the radiation safety program and during the period of the relocation. If necessary, he will assist Dr. Levinson in the training of the radiation workers and in the event of an emergency.
- Item 4. See Item 2. above.

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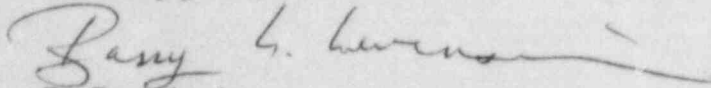
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If you need additional information please contact me.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Barry L. Levinson". The signature is fluid and extends across the line.

Dr. Barry Levinson

Enclosure  
BLL:bsm

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## IODINATION MONITORING PROCEDURE

I. Prior to Iodination(several days before scheduled work)

- A. Make certain that person(s) performing the iodinations have received a baseline thyroid scan and personal radiation monitoring badge(s).
- B. Iodination should be done in a hood. Check that hood air flow rates are adequate(100 linear feet per minute or greater).
- C. Check to see that all the equipment required for the iodination is readily available (e.g. syringes, septum capped vial etc.)

II. Immediately before the Iodination procedure is to begin.

- A. Install a calibrated air sampling system in the exhaust duct of the hood. The system consists of an air pump, a tandem filter assembly usually consisting of activated charcoal or other substance with a high affinity for Iodine.
- B. Make sure the person performing the Iodination is wearing his monitor badge, and the proper protective clothing and gloves.

III. During the Iodination

- A. Start the pump just before the initiation of the procedure, record the start time. When the procedure is completely finished, stop the pump and record the stop time.
- B. Unless absolutely necessary, avoid opening the shipping vial of Iodine during the run. Procedures should be practiced by "cold runs" before the radioactivity is used, to assure that all the necessary equipment is available and that the procedure runs as smoothly as possible.

IV. After the Iodination is complete.

- A. Remove the exhaust air sampling filters and assay them. Compute the average Iodine activity concentration in the exhaust air during the run. Compare it the current Maximum Permissible Concentration (10CFR20) to assure compliance.
- B. Remove and contain in a well ventilated area any radioactive waste. Check for contamination with a survey instrument and/or contamination smears.
- C. Within three(3) days, but after four(4) hours, of completing the procedure, take a urine specimen from those directly involved. This specimen will be analyzed for the presence of I-125.
- D. Review the procedure to eliminate trouble spots in future runs.