



January 11, 1991

To: U.S. Nuclear Regulatory Commission, Washington, D.C.

From: Michael D. Fenton

In Re: "Reply to a notice of violation"

In accordance with NRC 12-12-90 notice of violation, Fenton Art Glass Company employed Applied Health Physics, Pittsburgh, PA, to evaluate the extent of radiation hazards which may be present at Fenton Art Glass.

The survey results were faxed to the NRC and Federal Expressed to Fenton on January 7, 1991.

Fenton's next steps are as follows:

1. During the next month, Fenton will assess the marketplace to determine if there is enough demand for the product to justify the continuing expenses of using uranium.
2. If the decision is to continue using uranium, then Fenton will contract with a company such as Applied Health Physics to take the action listed in AHP 1-7-91 survey report, items 3a, 3b, and 3c, to bring Fenton into compliance. See attached pages.

On February 22, 1991, Fenton will send a report to the NRC updating the status of this project.

On November 4, 1990, Fenton voluntarily discontinued the use of uranium. Fenton will not use uranium again unless the NRC has first been advised.

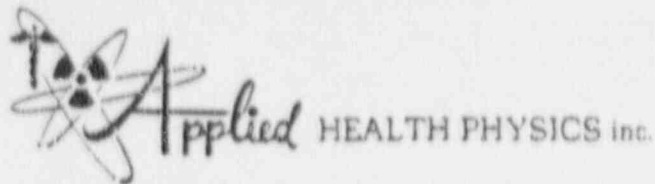
Copy to: U.S. NRC
Region II
Atlanta, GA

F E N T O N

A Continuing Celebration
in Fine Glass

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January 4, 1991

Mr. Thomas Fenton, Vice President
THE FENTON ART GLASS COMPANY
700 Elizabeth Street
Williamstown, WV 26187

Subject: REPORT OF RADIOLOGICAL SURVEY

Dear Mr. Fenton:

Enclosed you will find the documentation and analysis results relevant to the radiological survey that was conducted by Applied Health Physics, Inc. on December 4th and 5th of 1990. A summary of our findings are as follows:

1. A characterization study was conducted of the storage room, color room and surrounding areas to determine the extent of uranium oxide contamination utilizing a portable rate scaler, Ludlum Model 2221, serial number 73690, operating with a 23% alpha efficiency and a recent calibration conducted on December 3, one day prior to surveying. The probe utilized was a Ludlum Model 43-68, serial number 69155 gas proportional probe 100 cm². A series of smears(wipes) were retrieved to determine extent of removable contamination that may exist and were subsequently analyzed at our AHP laboratory on a Nuclear Measurements Corporation ACS-84 PLOPS Windowless Automatic Counting System. A gamma survey was conducted utilizing a Bicon Micro Analyst serial number A392E which was calibrated on November 13, 1990.

The Uranium Storage Room displayed an average fixed contamination of 7681 dpm/100 cm² (alpha) with the highest single reading of 26,087 dpm/100cm². The average removable contamination was 1718 dpm/100cm² (alpha), 5770 dpm/100cm² (beta), with the highest single reading of 7516 dpm/100cm² (alpha), 26,800 dpm/100cm² (beta) of removable contamination.

The Color Room displayed an average removable contamination on the floor of 32 dpm/100cm² (alpha) with the highest single reading of 340 dpm/100cm². The average fixed contamination was 445 dpm/100cm² (alpha) with the highest single reading of 3333 dpm/100cm².

Soil samples were obtained outside and below the ventilation blower which ventilates the Uranium Storage Room. The highest sample obtained displayed 8.646×10^{-6} uCi/gram of material with a dose rate of .13 mR/hr. The filter box was surveyed with the highest dose rate of .04 mR/hr. obtained in the middle front of the box.

The results of our preliminary air sampling have produced unexplainable high concentrations of radioactivity in the hallway which is an unrestricted area (30.6 alpha and 195 beta $\times 10^{-12}$ uCi/l. The current limits for natural uranium in restricted areas is 1×10^{-10} uCi/ml and in unrestricted areas it is 5×10^{-12} uCi/ml of air (see 10CFR20, Appendix B, column 1 of Tables I and II). Air samples taken in the restricted areas were less than the specified limits for restricted areas. These results may indicate re-entry of the effluent from the exhaust system within the restricted areas or leakage from the Color

Room caused by the Chemical Laboratory's exhaust system pulling contaminated air out of the nearby Color Room. There is a reason for this anomaly but a more comprehensive air monitoring program is needed to obtain the facts and to assure compliance with NRC regulations.

We do not have the results as yet of the urine samples obtained from two employees. However, in view of the NRC's request (see item 1b, c, and d of Mr. Stohr's letter of November 16, 1990) and results of our preliminary air monitoring, we recommend that both the air monitoring and bioassay programs be expanded under the direction of a certified health physicist (CHP).

2. Enclosed you will find the grid maps, survey results, smear results for the areas that were surveyed.
3. These surveys demonstrate that the following actions be taken.
 - a. Decontaminate the Uranium Storage Room to the levels specified in NRC letter dated November 16, 1990.
 - b. Installation of an approved HEPA Ventilation system to take place of the existing ventilation.
 - c. Contract with an NRC licensed, experienced health physics firm to:
 - 1) review the bioassay program and results of urine analysis to assure compliance with NRC regulations, Regulatory Guide 8.11 and J. P. Stohr's letter of November 16, 1990.
 - 2) Evaluate quality assurance program, handling techniques and to retrain all personnel concerned in the handling of radioactive materials.
 - 3) Decontaminate all areas showing contamination in excess of NRC limits to include the Color Room and any adjoining rooms showing any evidence of contamination.
 - 4) Dispose of all radioactive wastes in accordance with NRC regulations and conditions of applicable licenses.
 - 5) Design and install a more effective exhaust ventilation hood area for treatment of radioactive dusts by providing a negative air flow of at least 100 linear feet per minute at maximum opening. This system must have suitable in-line filters operated in conjunction with a HEPA filter so that the effluent concentrations of radioactive particulate does not exceed the limits specified in 10CFR20.
 - 6) Institute a comprehensive air monitoring program to assure and to document airborne radioactivity levels in restricted areas, adjacent unrestricted locations within the building and effluents discharged from the exhaust systems.

We sincerely appreciate the opportunity you have given Applied Health Physics, Inc. to perform the initial radiological survey. We hope you will appreciate our interest in providing the additional professional and technical services indicated in this preliminary report. Our 28 years of service to NRC licensees has taught us that mere compliance with NRC regulations is only a starting point for providing the degree of protection most corporations must have to avoid expensive uninsured losses and unwanted industrial/public relation problems which can and therefore should be avoided. We look forward to providing your company with professional services. We strive continuously to make the very best available at the most reasonable cost...

Sincerely,

APPLIED HEALTH PHYSICS, Inc.

Robert G. Gallagher, CHP, PE