



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH LABORATORY

January 22, 2014

Mr. Thomas Thompson
U.S. Nuclear Regulatory Commission
By fax: (610) 337-5269

Re: CT DPH Decommissioning Mail Control No. 582357

Dear Mr. Thompson:

This letter is in regard to the decommissioning of the radiochemistry laboratories at the 10 Clinton Street, Hartford, CT Public Health Laboratory (PHL) of the Connecticut Department of Public Health (License No. 06-27895-03). As you are aware, our Radiation Safety Officer, Stewart Chute, has written to you on October 10, 2013 and November 21, 2013, providing information relevant to decommissioning including surface sampling in the laboratories in question. In order to clarify what the PHL did, the steps taken are described below. Our plan was to move all equipment safely from the Hartford facility to the new PHL facility located in Rocky Hill, CT, and decommission the Clinton Street radiochemistry laboratory.

Our first step in assessing how to move the equipment safely and decommission the Hartford PHL was to review the scope of activities conducted in the radiochemistry laboratories (Room 152 and Room 153) and to review our records documenting these activities. The PHL NRC license only allows us to accept environmental samples of low radioactivity. Typically, samples received are drinking water compliance samples, air samples for iodine-131, plus milk and vegetation samples associated with monitoring the area around the Millstone Power Plant. None of these samples have shown any levels of radioactivity significantly above background. Additionally, our monthly swipe samples have historically been at background, further confirming that the Hartford PHL was in all likelihood free from radioactive contamination.

Based on this information, our plan was to clean and move the laboratory equipment located in Hartford. After the equipment was moved, a thorough cleaning of the radiochemistry laboratories could be performed followed by a closeout survey. The details of our plan, which was implemented accordingly, were as follows:

Step 1: Prior to equipment cleaning and moving, we performed routine swipe testing and verified there was no radioactivity contamination present.

Step 2: Instrument surfaces were decontaminated using detergent and water. Instrument background checks were performed to verify no residual contamination was present.

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Page 1 of 6

582357

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Re: CT DPH Decommissioning MC No. 582357

Step 3: Using the specific instrument manufacturers (Protean, Canberra, and Perkin Elmer), the instrumentation was packaged and shipped from the Hartford PHL to the new Rocky Hill PHL. **Note:** Upon moving the equipment, a source for an out-of-service Liquid Scintillation Counter was discovered. The source was removed by a third-party vendor (Perkin-Elmer). The instrument was then discarded and the source (Ba-133) was disposed of by the vendor, for which disposal we have already submitted documentation to you.

Step 4: The PHL's Radioactive Materials (RAM) inventory was packaged and prepared for shipment from Hartford to Rocky Hill using contractor, Radiation Safety Associates of Hebron, CT. The RAM was transported to the Rocky Hill facility by Environmental Technical Services.

Step 5: Laboratory staff performed a thorough soap and water washing of all bench tops, hoods, shelves, and disposed of any waste down the waste disposal sink in the radiochemistry laboratories. Chase Environmental Group was contracted for removal and disposing of any remaining solid RAM waste.

At this point we concluded that all potential sources of radioactivity contamination had been removed from the Hartford PHL. The next steps involved further cleaning of the radiochemistry laboratories to ensure that no traces of radioactive contamination remained. A closeout survey was then performed to verify the radiochemistry laboratories were free from contamination.

Step 6: As part of the general decommissioning of the entire PHL, Environmental Technical Services (ETS), a company specializing in hazardous waste removal and remediation, was contracted to perform a surface decontamination of all vacated spaces in the PHL. This included using disinfectant in clinical laboratories and cleaning agents in chemical laboratories. All chemical fume hoods, bench tops, drawers and shelves were thoroughly scrubbed and rinsed in this process. Walls were washed with detergent where they displayed signs of stain which, given the age of the building, resulted in the preponderance of the walls being washed. During the cleaning procedure, all sink drain traps were removed and discarded as hazardous waste. Any remaining hazardous waste was manifested and disposed of by ETS. After the cleaning process was completed on the first floor where the radiochemistry laboratories were located, the areas were surveyed for removable alpha and beta radiation (June 2013) and later gamma radiation (July 2013). Levels of radioactivity were not significantly above background. The results for removable alpha/beta activity and gamma screening which were previously submitted to you are also included with this letter.

Step 7: In order to expedite the building's final disposition, the building's owner, the Department of Administrative Services, began asbestos abatement in the unoccupied areas of the building. Abatement began in late February 2013 and started on the 4th floor. The analysis of areas in the building found asbestos in numerous locations, from floor tile mastic and bench top mastic to fire wrappings on structural steel. Once abatement moved to the more recently constructed areas of the building, including the radiochemistry laboratories located in Room 152 and Room 153 on the first floor, only the various mastics were found to contain asbestos. Any radioactive contamination that could possibly have been present in Room 152 and Room 153 was in all likelihood abated during the cleaning process (see steps above) before asbestos abatement began in the radiochemistry laboratories; this is evidenced by the June 2013 and July 2013 survey results. The abatement process itself, in this area, consisted of removing flooring and counter tops as well as internal structures, including chemical fume hoods and

Re: CT DPH Decommissioning MC No. 582357

research benches. After receiving your request of December 5, 2013 for proposing an additional survey, a visual inspection of the space was made on December 13, 2013. It was found to be completely gutted.

No internal structures remain; only the sheet rock perimeter walls are left standing. Non-asbestos containing materials were recycled as metal waste or disposed of as routine waste.

Currently, none of the internal fixtures are available for additional testing. However, given the history of the type of samples analyzed in the radiochemistry laboratories and their associated levels of radioactivity, it is highly unlikely there was any contamination in these laboratories to begin with. The routine monthly swipe tests conducted at the 10 Clinton Street facility also support this. Moreover, the cleaning procedures that had been implemented in these laboratories would have in all likelihood removed any possible contamination, as evidenced by the included closeout survey swipe test results.

In summary, we believe that these laboratories were fully abated via a plan and implementation that were intended to conform to NRC guidance. We trust that this response will address any concerns regarding this matter. However, should any further information be required to bring this process to completion, we appreciate your assistance.

Respectfully,



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Cc. S. Chute, Ph.D, CT PHL RSO

Table 1: Survey Report for Removable Alpha/Beta Activity

SURVEY REPORT FOR REMOVABLE ALPHA/BETA RADIATION: Page 1 of 2					FACILITY:	10 Clinton St, Hartford	
					LOCATION:	Rooms 152 & 153	
Date Sampled	Date Analyzed	Sample ID	Label	Description	UNITS	dpm/100cm ² (alpha)	dpm/100cm ² (beta)
					LIMIT	20	100
6/7/2013	6/28/2013	132418	N/A	Blank		0.000	5.591
6/7/2013	6/28/2013	141018	B1-A	Rm 152 bench B1 surface		<20	<100
6/7/2013	6/28/2013	142038	B1-B	Rm 152 bench B1 surface		<20	<100
6/7/2013	6/28/2013	143048	B1-S	Rm 152 Sink S2		<20	<100
6/7/2013	6/28/2013	144058	BN-2	Rm 153 bench B2 surface		<20	<100
6/7/2013	6/28/2013	145118	BN-3	Rm 153 bench B3 surface		<20	<100
6/7/2013	6/28/2013	150128	BN-4	Rm 153 bench B4 surface		<20	<100
6/7/2013	6/28/2013	151138	B-4	Rm 152 table B6		<20	<100
6/7/2013	6/28/2013	152148	B-5	Rm 152 table B5		<20	<100
6/7/2013	6/28/2013	153208	B-6	Rm 152 table B4		<20	<100
6/7/2013	6/28/2013	154218	D-1	Rm 153 Doorknob to storage room		<20	<100
6/7/2013	6/28/2013	155228	D-2	Rm 153 latch to cold room		<20	<100
6/7/2013	6/28/2013	160248	D-3	Doorknob on door between rms 153 & 152		<20	<100
6/7/2013	6/28/2013	161258	D-4A	Rm 153 doorknob on eastern door		<20	<100
6/7/2013	6/28/2013	162308	D-4B	Rm 152 table D4 surface		<20	<100
6/7/2013	6/28/2013	163318	D-5	Rm 153 doorknob on western door		<20	<100
6/7/2013	6/28/2013	164338	D-6	Rm 152 doorknob on door to hall		<20	<100
6/7/2013	6/28/2013	165348	H-4	Rm 153 hood H7		<20	<100
6/7/2013	6/28/2013	170358	H-4V	Rm 153 hood H7 vent		<20	<100
6/7/2013	6/28/2013	171418	H-5	Rm 153 hood H6		<20	<100
6/7/2013	6/28/2013	172428	H-5V	Rm 153 hood H6 vent		<20	<100
6/7/2013	6/28/2013	173348	H-6	Rm 153 hood H5		<20	<100

SURVEY REPORT FOR REMOVABLE ALPHA/BETA RADIATION: Page 2 of 2				FACILITY: 10 Clinton St, Hartford LOCATION: Rooms 152 & 153				
Date Sampled	Date Analyzed	Sample ID	Label	Description	UNITS LIMIT	dpm/100cm ² (alpha)	dpm/100cm ² (beta)	
6/7/2013	6/28/2013	174458	H-6V	Rm 153 hood H5 vent		<20	<100	
6/7/2013	6/28/2013	175508	H-7	Rm 153 hood H4		<20	<100	
6/7/2013	6/28/2013	180518	H-7V	Rm 153 hood H4 vent		<20	<100	
6/7/2013	6/28/2013	181538	SR-1	Rm 153 storage room weigh table south		<20	<100	
6/7/2013	6/28/2013	182548	SR-2	Rm 153 storage room south wall cabinet bottom shelf		<20	<100	
6/7/2013	6/28/2013	183558	SR-3	Rm 153 storage room south wall cabinet middle shelf		<20	<100	
6/7/2013	6/28/2013	184618	SR-4	Rm 153 storage room south wall cabinet top shelf		<20	<100	
6/7/2013	6/28/2013	185628	SR-5	Rm 153 storage room weigh table north		<20	<100	
6/7/2013	6/28/2013	190638	SR-6	Rm 153 storage room north wall cabinet bottom shelf		<20	<100	
6/7/2013	6/28/2013	191658	SR-7	Rm 153 storage room north wall cabinet middle shelf		<20	<100	
6/7/2013	6/28/2013	192708	SR-8	Rm 153 storage room north wall cabinet top shelf		<20	<100	
6/7/2013	6/28/2013	193718	B1-C	Rm 152 bench B1 surface		<20	<100	
6/7/2013	6/28/2013	194738	N/A	Blank		1.75	0.932	
COMMENTS: MDA= Minimum Detectable Activity Alpha MDA= 4.734 dpm/100cm ² Beta MDA = 0.841 dpm/100cm ² N/A = Not applicable					Instrument		Tennelec 5XLB unit 2	
					Background (cpm)		0.00 +/- 0.00	0.00 +/- 0.00
					Efficiency (%)		5.72 +/- 0.04	32.19 +/- 0.18
					Count time (min)		10	10
Sampled by: Stewart Chute Date: 6/7/2013 Analyzed by: Paul Milne Date: 6/28/2013								

Table 2: Survey Report for Gamma Radiation.

SURVEY REPORT FOR GAMMA RADIATION		10 Clinton St, Hartford Rooms 152 & 153	
Label	Description	units:	CPM
N/A	Background In hall		bkg
B1-A	Rm 152 bench B1 surface		bkg
B1-B	Rm 152 bench B1 surface		bkg
B1-S	Rm 152 Sink S2		bkg
BN-2	Rm 153 bench B2 surface		bkg
BN-3	Rm 153 bench B3 surface		bkg
BN-4	Rm 153 bench B4 surface		bkg
B-4	Rm 152 table B6		bkg
B-5	Rm 152 table B5		bkg
B-6	Rm 152 table B4		bkg
D-1	Rm 153 Doorknob to storage room		bkg
D-2	Rm 153 latch to cold room		bkg
D-3	Doorknob on door between rms 153 & 152		bkg
D-4A	Rm 153 doorknob on eastern door		bkg
D-4B	Rm 152 table D4 surface		bkg
D-5	Rm 153 doorknob on western door		bkg
D-6	Rm 152 doorknob on door to hall		bkg
H-4	Rm 153 hood H7		bkg
H-4V	Rm 153 hood H7 vent		bkg
H-5	Rm 153 hood H6		bkg
H-5V	Rm 153 hood H6 vent		bkg
H-6	Rm 153 hood H5		bkg
H-6V	Rm 153 hood H5 vent		bkg
H-7	Rm 153 hood H4		bkg
H-7V	Rm 153 hood H4 vent		bkg
SR-1	Rm 153 storage room weigh table south		bkg
SR-2	Rm 153 storage room south wall cabinet bottom shelf		bkg
SR-3	Rm 153 storage room south wall cabinet middle shelf		bkg
SR-4	Rm 153 storage room south wall cabinet top shelf		bkg
SR-5	Rm 153 storage room weigh table north		bkg
SR-6	Rm 153 storage room north wall cabinet bottom shelf		bkg
SR-7	Rm 153 storage room north wall cabinet middle shelf		bkg
SR-8	Rm 153 storage room north wall cabinet top shelf		bkg
B1-C	Rm 152 bench B1 surface		bkg
N/A	Background in hall		bkg
COMMENTS: bkg = CPM at background N/A = Not applicable	Instrument	Ludlum 14C w/ 44-9 probe	
	Identification	252189/269828	
	Calibration Due	25 June, 2014	
	Background in hall	30 CPM	
	Efficiency (for Tc99)	11%	
Sampled by:	Date: 26 July 2013		
Stewart Chute Joe Gaydosh			