71 SHELTON AVENUE – NEW HAVEN, CT

RADIOACTIVITY AIR SAMPLING REPORT
DECEMBER 21, 2019 – JANUARY 17, 2020

United Nuclear Corporation (UNC) has deployed a total of five air monitoring stations (AMS) around the 71 Shelton Avenue Site (Site) perimeter to monitor the dust and associated radioactivity in ambient air. The AMS locations are based upon current and anticipated Site work activities. Locations shown in the aerial figure below are approximate.

UNC is implementing various dust suppression and control measures (water mist, controlled deconstruction, and plastic sheeting) to keep dust from becoming airborne and migrating off-site. The Community Air Monitoring Program (CAMP) verifies the effectiveness of these measures and any potential impact to offsite receptors and surrounding community. Airborne particulates (dust) is monitored on a real-time basis, so results are available continuously throughout the day. Air monitoring stations are also set up to continuously collect airborne particulates by pulling air through a filter. Periodically, air filters are collected, scanned with meters at the Site, and then shipped in a protective envelope to an off-site vendor laboratory for radioactivity analysis.

The site established, and the Nuclear Regulatory Commission (NRC) and the Connecticut Department of Energy and Environmental Protection (CTDEEP) concurred with, an airborne radioactivity action level of 0.00000000000001 µCi/ml ($1x10^{-14}$ µCi/ml) gross alpha for this project. Exceedance of this action level requires evaluation of site practices and controls. Note that this action level is approximately two times the natural background level of airborne radioactivity in New Haven, CT, and is significantly lower than the concentration that requires prompt notification to CT DEEP. In the event the net gross alpha radioactivity (measured radioactivity minus the natural background) is in excess of the action level, site personnel will review weather conditions, cleanup activities (i.e. deconstruction, abatement, excavation, waste management) and dust control measures to assess the cause of the exceedance and implement mitigation measures, if warranted, to ensure the safety of the workers and the public. As comparison of

acceptable radioactivity exposure, the U.S. Environmental Protection Agency (US EPA) has established 0.000000004 µCi/ml ($4x10^{-9}$) µCi/ml as the limit for radon in air. The radon exposure limit is 100,000 times greater than the action level established for this project.

The radioactivity (net alpha) measured from the air filters collected from the AMS samplers is presented in Graph 1 below. The dashed line represents the site action level and Table 1 explains the likely cause of any results greater than the action level. The radioactivity analysis result from each of the collected air filters are represented on Graph 1. The data markers (circles) will appear as a single dot where the measured data values are the same and overlay each other. For example, the single "dot" at 0 (0.00E+00) Net Gross Alpha Concentration means multiple monitoring stations reported no radioactivity above natural background on that day.

GRAPH 1 – Net Alpha Results from the Community Air Monitoring Stations

From December 21, 2019 to January 17, 2020, there were no monitoring results that were higher the Action Level. The specific site/project conditions associated with the project (e.g., work activities and locations on that day, wind direction, dust controls, data from the other monitoring locations) were reviewed (Table 1) and there were no activities which should have caused an airborne release.

TABLE 1 – Results Greater than Action Level

Date/Time Filter On	Date/Time Filter Off	AMS Station	Net Gross Alpha Result (µCi/ml)	Weather Conditions	Site Work Activities	Resolution
N/A	N/A	-	None greater than action level	-	No activities which should have caused a release	N/A

Lower brick wall remains between Column Lines 1/3, and 4/5

All roofing has been removed from the buildings
Structural steel framing remains between Column Lines 1 and 2 and supports the metal facade that remains along Shelton Avenue

Concrete floor slab removal between Column Lines 33 and 48 (Bldg 3H)

APPROXIMATE LIMITS OF ASPHALT PARKING AND VEHICLE ACCESS CORRIDOR

METEOROLOGICAL STATION

AMS-1
AMS-2
AMS-3
AMS-4
AMS-5
AMS-6

CONC SIDEWALK

GRAVEL

MEN
WOMEN

ACM DECON

CONCRETE

FORMER RESTROOMS TIMBER CONSTRUCTION

BUILDING 6H WEST

BUILDING 6H EAST

COORDINATE SEWER TERMINATION WITH CITY ENGINEER

MOSTLY CONCRETE / SOME GRAVEL

RAMP

HIGH BAY, FORMER FABRICATION, WAREHOUSE AREA

BUILDING 3H

CLERESTORY

OPEN PIPE

GAS VALVE

LOWER ROOF, FORMER OFFICES, ETC.

CONCRETE CURB

SHELTON AVENUE

FARMINGTON CANAL GREENWAY

LEGEND

- APPROXIMATE LIMITS OF NORTH TRENCH
- APPROXIMATE LIMITS OF SOUTH TRENCH
- APPROXIMATE LIMITS OF LATERAL TRENCH
- CHAIN LINK FENCE (6 FEET HIGH)
- PROPERTY BOUNDARY
- CATCH BASIN
- FIRE HYDRANT
- UTILITY POLE
- UNDERGROUND ELECTRIC (APPROXIMATE)
- OVERHEAD ELECTRIC
- SEWER
- AMS–#, AIR MONITORING STATION
- METEOROLOGICAL STATION
- WATER VALVE BOX
- TRANSFORMER (TO BE DRAINED AND REMOVED)
- SUMP
- FEATURE TO BE PROTECTED
- GROUND COVER TRANSITION
- GATE
- GRASS
- TRACKING PAD – GRAVEL
- TRACKING PAD – CONCRETE APRON, SIDEWALK

NOTE:

1. EROSION AND SEDIMENTATION CONTROLS WILL BE IN PLACE PRIOR TO ANY WORK BEING CONDUCTED AT THE SITE.

0 30' 60'
GRAPHIC SCALE

FORMER UNITED NUCLEAR CORPORATION FACILITY
71 SHELTON AVENUE
NEW HAVEN, CONNECTICUT

STATUS OF WORK PROGRESS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

SWC removing roof on southern half of the main building between Columns 14-5.

View of window removal.

View following window removal.

SWC removing steel rafters from columns 14-5.

View of SWC removing remaining knee-wall at column 33.

View of slab cleaning.

View of critical barrier installed at column #5 for remaining roof debris removal.

View of pipes inside southern trench.

SWC removing northern wall.

SWC cutting large crane for loadout.

View of deep tunnel looking south towards Argyle St.

View of high reach excavator being disassembled.

View of concrete slab at column 1 looking east.

View of area north of Building 6H following removal of bathroom/addition on the north.

View of interior foundation walls below the slab in Building 3H.

View of concrete slab removal at column 33 looking east.

View of pipe removal in the north trench from column 48-40 looking west.

View of scaffolding frame assembled over ACM material in trench at column 33.