

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 70-273/82-01

Docket No. 70-273

License No. SNM-252 Priority _____ Category _____

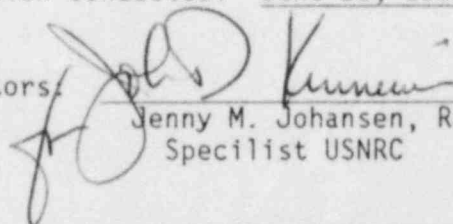
Licensee: Union Carbide Corporation
Development Laboratories
National Carbon Corporation
3625 Highland Avenue
Niagara Falls, New York

Facility Name: Union Carbide Corporation
Carbon Products Division

Inspection At: 3625 Highland Avenue, Niagara Falls, New York 14305

Inspection Conducted: June 28, 1982

Inspectors:



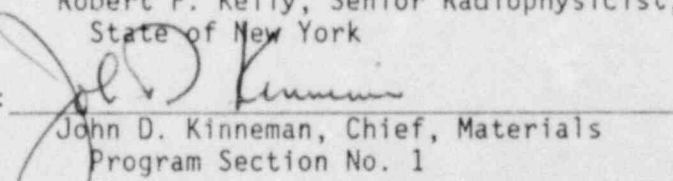
Jenny M. Johansen, Radiation
Specialist USNRC

7/28/82
date

Robert F. Kelly, Senior Radiophysicist,
State of New York

date

Approved by:



John D. Kinneman, Chief, Materials
Program Section No. 1

7/28/82
date

Inspection Summary:

Inspection on June 28, 1982 (Report 70-273/82-01)

Areas Inspected: Special, announced closeout inspection of a formerly licensed site, including review of records from Division of Fuel Cycle and Material Safety NMSS, USNRC, review of documents found by licensee's representatives, and independent measurements at the facility formerly used under licenses issued by the AEC for by-product, special nuclear and source materials. The NRC Region I inspector was accompanied by an inspector representing the State of New York.

Results: No violations were identified. Measured radiation levels were indicative of natural background. The site meets the NRC's current criteria for release for unrestricted use.

DETAILS

1. Person Contacted

- A. *#Michael A. Balent, Chief Plant Engineer
 - B. *#Daniel Jarlenski, Director Occupational Health
 - C. *#James Baylus, Assistant Plant Manager, Technical
 - D. *P. E. Kozak, Plant Manager
 - E. H. J. Lojek, Manager Computer Center
 - F. Walter Burroughs, Manager Information Systems
 - G. Donald Luman, Manager Systems Control
- #denotes those present at pre-inspection records review
*denotes those present at exit interview

2. Background

National Carbon Company Developmental Labs. a Division of Union Carbide Corporation, was authorized to perform research and development of fuel elements suitable for nuclear reactors under License No. SNM-252 between 1958 and 1964. The authorized place of use included the licensee's laboratories at 3625 Highland Avenue, Niagra Falls, New York and Town Street, Fostoria, Ohio.

Fuel materials developed were either transferred to the customer or returned to Oak Ridge National Laboratory as scrap. From review of available record concerning License No. SNM-252 it appears that after 1961 all work under this license was transferred to Fostoria, Ohio.

3. Interview with Personnel

Representatives of Union Carbide stated that after discussions with the inspector in May and June a search of their records in Perma, Ohio was initiated. This search produced records which revealed that during the late 1950's and early 1960's the 3625 Highland Avenue facility was covered by three (3) AEC licenses. Review of the records (See Enclosure A attached to this report) with the Union Carbide representatives indicated the following:

I. AEC License No. 31-2050-01

This license was terminated by the State of New York on July 1, 1965 upon evidence that the Cs-137 and Co-60 gauges were transferred back to the vendor Curtiss-Wright Corporation, Princeton, New Jersey (See Section I of Enclosure A).

II. AEC License No. SMB-366

This license was terminated by the State of New York on July 1, 1965 upon request of Union Carbide in a letter dated June 3, 1965. A letter dated April 30, 1965 from Union Carbide indicates that no radioactive materials authorized by this license were on hand. (See Section II of Enclosure A)

III. AEC License No. SNM-252

In a letter dated June 3, 1965 from Mr. H. J. Mann, Work's Engineer, Highland Avenue facility, to the State of New York, the licensee assumed that their license would be terminated. Union Carbide correspondence dated April 30, 1965 indicated that no radioactive materials were on hand since 1960 (See Section III of Enclosure A).

The Union Carbide representatives stated that through discussions with employees who worked at the Highland Avenue facility in the late 1950's and early 1960's and review of available building diagrams they concluded that the use of radioactive materials by the National Carbon Company Development Laboratories was confined to Buildings No. 56 and No. 57 with a room in Building No. 32 being used for storage. (See Site Diagram Section V Maps in Enclosure A). Buildings No. 57, No. 56 and No. 32 are currently occupied by the Plant Engineering Office, Computer Center and Plant Laboratory, respectively.

4. On site Burial

Union Carbide representatives stated that they had no knowledge of any on-site burial of radioactive materials.

5. Public Document Room Clearance

Union Carbide representatives (A, B, and C) stated during the records review that the copies of records and diagrams given the inspector (See Enclosure A) were not proprietary documents and could be released to the public.

6. Confirmatory Measurements

On June 28, 1982, the inspector made radiation level measurements inside the designated buildings. All radiation level measurements were made using a Ludlum Model 12S Micro R Meter calibrated April 19, 1982 held at knee level.

Building No. 56: All interior offices storage areas, the garage, and rest-rooms were surveyed. Radiation levels within the building ranged from 4 to 6 microR per hour with the exception of the ladies restroom which measured 10 microR per hour. The inspector observed that the restroom was decorated with ceramic tiles and concluded the tiles contributed to the slight increase in background.

Radiation levels of the outside environs 5 to 20 feet from the building walls ranged from 4 to 6 microR per hour. An increase in the radiation level up to 12 microR per hour was observed when the survey meter was placed on the building walls which were brick rather than cinder block. Samples of a black tar substance splattered on a brick wall, and of the red brick were taken.

Building No. 57: All interior office, storage areas and rest rooms were surveyed. Radiation levels within the building ranged from 4 to 6 microR per hour on both the first and second floors. Radiation levels of the outside environs 5 to 20 feet from the building walls ranged from 8-10 microR per hour with an increase up to 16 microR per hour observed when the meter was placed against the red brick.

Building No. 32: All interior laboratories, storage areas and the garage were surveyed. Radiation levels within the building ranged from 6 to 10 microR per hour with certain brick walls reading up to 16 microR per hour. A wipe of the wall next to the transformer room formerly used for radioactive material storage was taken. Radiation levels of the outside environs 5 to 20 feet from the building walls ranged from 10 to 12 microR per hour.

6. Other buildings and environs (See Site diagram in Section V of Enclosure A)

A walking survey of the inside and outside of Buildings No. B, 3A, 3D, 3E and 49, detected radiation levels ranging from 4 to 10 microR per hour. Surveys outside buildings No. I-E, No. I-F, No. I-D, No. 23, No. I-G, No. 66, No. 1, No. 6, No. 6A, No. 6B, No. 5A, No. 5C, detected radiation levels ranging from 4 to 10 microR per hour. Surveys along the Highland Avenue property fence detected radiation levels ranging from 4 to 10 micro R hour.

7. Sample and wipe analysis

The samples of brick, carbon scraping and the wipe were analyzed in the Region I Laboratory. The wipe and tar sample contained no radioactive contamination exceeding background. Analysis of the brick showed trace amounts of naturally occurring nuclides commonly found in brick.

8. Discussions with Employees

Throughout the course of the surveys the inspector, representatives of Union Carbide, and the representative from the State of New York answered questions from employees as to the scope of the inspection and the levels of radiation detected in comparison to natural background.

9. Exit Interview

The inspector summarized the scope and results of the inspection with the individuals identified in paragraph 1. Individual "D" requested that Union Carbide be allowed to review the inspection report prior to placement in the public document room.

The radiation levels detected are indicative of the natural background of the area and the site meets current NRC criteria for release for restricted use. .

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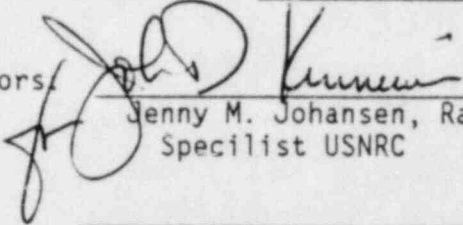
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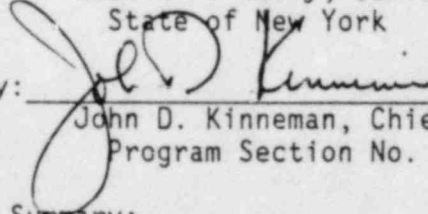
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Robert F. Kelly, Senior Radiophysicist, date
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INDEX

	<u>Date Issued</u>	<u>Date Terminated</u>
<u>I. A.E.C. LICENSE 31-2050-1/N.Y.S. 0181</u>		
Cesium 137 and Cobalt 60	2/18/57	7/5/60 - (AEC)
X-Ray Units		7/1/65 - (NYS)*
Issued to Niagara Plant, Niagara Falls, N.Y. (National)		6/3/65 - (UCC)
<u>II. A.E.C. LICENSE SMB-366</u>		
Uranium & Thorium	= 1961	7/1/65 - (NYS)*
Issued to Fostoria, Ohio, Cleveland, Ohio and Niagara Falls, N.Y. (National)		6/3/65 - (UCC)
<u>III. A.E.C. LICENSE SNM-252</u>		
Uranium enriched in U-235 isotope	10/3/58	6/3/65 - (UCC)
Issued to Fostoria, Ohio and Niagara Falls, N.Y. (National)		
<u>IV. RELOCATION OF DEVELOPMENT FACILITIES TO PARMA, OHIO</u>		
		1965
<u>V. MAPS OF NIAGARA</u>		
	<u>Was</u>	<u>Now</u>
a. National Facility Layout		
b. Bldg. #56 -	Developmental Lab	Computer Services
c. Bldg. #57 -	Developmental Lab	Plant Engineering
d. Bldg. #32 -	Storage	Product Quality Lab

* Regulatory responsibility transferred from U.S. AEC to N.Y.S. on 10/15/62.