DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA. 22333

D. Taras/seb/AUTOVON 284-9340

DRCSF-P

17 April 1980

SUBJECT: Decontamination of Diamond Ordnance Radiation Facility

THRU: Commander
US Army Electronics ~~Research~~ and Development Command
ATTN: ~~DRDEL-SS~~
~~Adelphi~~, MD 20783

TO: Commander
Harry Diamond Laboratories
ATTN: DELHD-N-RBI
Adelphi, MD 20783

1. Reference is made to the following report: Radiation Protection Special Study No. 28-43-0982-80, Close-Out Survey of Diamond Ordnance Radiation Facility (DORF), 25-28 February 1980.

2. On 10 April the Army Reactor Committee for Health and Safety reviewed the referenced report and concluded that decontamination is consistent with the criteria in NRC Regulatory Guide 1.86 and is as low as reasonably achievable. In PHONECON, 17 April 80, LTC Quillin, WRAMC Radiation Protection Officer, stated these acheived levels are acceptable to WRAMC. Based on the above, the facility is suitable for unrestricted use and occupancy.

DARWIN N. TARAS
Member, Army Reactor Committee
for Health and Safety

CF:
HQDA(DASG-PSP-E); (DAPE-HRS)
DRCIS
DRCSG

DRCSG-E (3 Apr 80) 1st Ind
SUBJECT: Preliminary Report, Radiation Protection Special Study No. 28-43-0982-80, Close-Out Survey of Diamond Ordnance Radiation Facility (DORF), 25-28 February 1980

Headquarters, US Army Materiel Development and Readiness Command
5001 Eisenhower Avenue, Alexandria, VA 22333 9 Apr 80

TO: Commander, US Army Electronics Research and Development Command
ATTN: DELHD-N-RBI, Adelphi, MD 20783

Subject report has been reviewed by this office and is forwarded for information and appropriate action.

FOR THE COMMANDER:

for Carl W. Johnson MAJ, MS

ROBERT T. CUTTING, M.D.
Colonel (P), MC
Command Surgeon

1 Incl
nc

CF:
DRCSF-P
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CARL W. JOHNSON
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DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
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Mr. Lodde/cw/AUTOVON
584-3526

HSE-RH/WP

3 APR 1980

SUBJECT: Preliminary Report, Radiation Protection Special Study No. 28-43-0982-80, Close-Out Survey of Diamond Ordnance Radiation Facility (DORF), 25-28 February 1980

Commander
US Army Materiel Development and
Readiness Command
ATTN: DRCSG
5001 Eisenhower Avenue
Alexandria, VA 22333

1. AUTHORITY. Letter, DELHD-N-RBI, Harry Diamond Laboratories, 2 November 1979, subject: Request for a Radiological Health Special Study, and indorsement thereto.

2. PURPOSE. This special study was performed to determine the presence and extent of radioactive contamination and whether the facility met the radioactive contamination levels stated in Nuclear Regulatory Commission, Regulatory Guide 1.86, Termination of Operating Licenses for Nuclear Reactors, June 1974, following decontamination.

3. GENERAL.

a. This radiation protection special study was conducted by Mr. Gordon M. Lodde, Health Physicist, and 2LT Roger M. Davis, Jr., Health Physics Division, this Agency, during the period 25-28 February 1980.

b. An entrance interview and an exit briefing were provided to Mr. Charles Ware, Contracting Officer's Representative, Harry Diamond Laboratories.

4. FINDING.

a. The results of smear surveys are provided in Inclosure 1.

b. The results of concrete analysis are provided in Inclosure 2.

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c. Surveys by direct radiation measurements indicated that the highest radiation values were obtained on the north, south, and west walls of the exposure room. The values ranged from 20-400 microroentgen per hour (μR/h) on contact as measured with an Eberline, Model PRM-7, Micro-R-Meter and up to 350 μR/Hr when measured with a Victoreen, Model 440, Ionization Chamber. These two methods of radiation measurements are in close agreement.

5. DISCUSSION.

a. Samples were taken from the wastewater holding tanks and the sewage system down stream from the holding tanks.

b. Core samples were taken off site and soil and vegetation samples were taken both on and off site.

c. The final report will be forwarded in about 60 days following analysis of the samples.

6. CONCLUSION. A review of the findings indicated that after decontamination the facility conformed to the requirements of Regulatory Guide 1.86.

7. RECOMMENDATION. None

FOR THE COMMANDER:

2 Incl
as

FRANK E. McDERMOTT
COL, MSC
Director, Radiation and
Environmental Sciences

CF:
Cdr, ERADCOM
Cdr, HSC (HSPA-P)

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RESULTS OF ANALYZING WIPE TEST SAMPLES

Sample Identification	RCB Lab No.	Disintegrations per Minute ±2 Standard Deviations/100 c Gross Alpha Activity	Gross Beta Activity
1	L244	< 1.4	4.4 ± 2.5
2	L245	< 1.4	< 2.5
3	L246	< 1.4	< 2.5
4	L247	< 1.4	< 2.5
5	L248	< 1.4	< 2.5
6	L249	< 1.4	< 2.5
7	L250	< 1.4	< 2.5
8	L251	< 1.4	2.8 ± 2.0
9	L252	< 1.4	< 2.5
10	L253	< 1.4	6.0 ± 2.7
11	L254	< 1.4	2.6 ± 2.0
12	L255	< 1.4	< 2.5
13	L256	< 1.4	< 2.5
14	L257	< 1.4	< 2.5
15	L258	< 1.4	< 2.5
16	L259	< 1.4	3.6 ± 1.9
17	L260	< 1.4	< 2.5
18	L261	< 1.4	< 2.5
19	L262	< 1.4	14.6 ± 3.7
20	L263	4.7 ± 2.4	14.0 ± 3.6
21	L264	< 1.4	< 2.5
22	L265	< 1.4	6.2 ± 2.3
23	L266	< 1.4	7.0 ± 2.6
24	L267	3.2 ± 1.9	< 2.5
25	L268	< 1.4	5.2 ± 2.4
26	L269	< 1.4	< 2.5
27	L270	< 1.4	3.0 ± 2.0
28	L271	< 1.4	< 2.5
29	L272	< 1.4	< 2.5

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Sample Identification	RCB Lab No.	Disintegrations per Minute ±2 Standard Deviations/100 cm^2 Gross Alpha Activity	Gross Beta Activity
30	L273	< 1.4	3.2 ± 2.2
31	L274	< 1.4	9.8 ± 3.2
32	L275	< 1.4	3.2 ± 2.3
33	L276	< 1.4	< 2.5
34	L277	< 1.4	< 2.5
35	L278	< 1.4	3.2 ± 2.4
36	L279	< 1.4	3.2 ± 2.1
37	L280	< 1.4	5.0 ± 2.4
38	L281	< 1.4	4.8 ± 2.3
39	L282	< 1.4	< 2.5
40	L283	< 1.4	< 2.5
41	L284	< 1.4	3.4 ± 2.1
42	L285	< 1.4	< 2.5
43	L286	< 1.4	< 2.5
44	L287	< 1.4	< 2.5

Alphus L. Jones
ALPHUS L. JONES, Chief
Radl & Biol Chem Div, USAEHA

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INTERIM RESULTS OF ANALYZING CONCRETE SAMPLES

Sample Identification	RCB Lab No.	Microcurie per Gram ±2 Standard Deviations Europium-152 Activity	Europium-154 Activity	Cobalt-60 Activity
EX-N	RC1	$3.5 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$2.8 \times 10^{-6} \pm 0.6 \times 10^{-6}$	$1.0 \times 10^{-5} \pm 0.4 \times 10^{-6}$
EX-S	RC2	$5.9 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$4.5 \times 10^{-6} \pm 0.8 \times 10^{-6}$	$3.4 \times 10^{-5} \pm 0.1 \times 10^{-5}$
ES In Pool	RC3	$1.6 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$1.4 \times 10^{-6} \pm 0.4 \times 10^{-6}$	$5.4 \times 10^{-6} \pm 0.3 \times 10^{-6}$
ES-W	RC4	$2.8 \times 10^{-5} \pm 0.1 \times 10^{-5}$	$2.2 \times 10^{-6} \pm 0.5 \times 10^{-6}$	$1.4 \times 10^{-5} \pm 0.1 \times 10^{-5}$
EX LIFT-S	RC5	$1.1 \times 10^{-4} \pm 0.2 \times 10^{-5}$	$7.9 \times 10^{-6} \pm 0.9 \times 10^{-6}$	$3.0 \times 10^{-5} \pm 0.1 \times 10^{-5}$

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