

30 AUG 1982

APPENDIX A

NOTICE OF VIOLATION

Becton-Dickinson Company
North Canaan, Connecticut 06018

Docket No. 30-06891
License No. 06-13514-01

As a result of the inspection conducted on August 2, 1982, and in accordance with the NRC Enforcement Policy (10 CFR 2, Appendix C), the following violation was identified:


Condition 13A of License No. 06-13514-01 requires that sealed sources containing licensed material be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source received from another person not be used until tested.

Contrary to the above, a sealed source containing 15 millicuries of cobalt-60 was not leak tested from August 20, 1981 to May 13, 1982, an interval exceeding six months. In addition, when this source was received, it was not accompanied by a leak test certificate and was put into use without having a leak test performed.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Becton-Dickinson Company is hereby required to submit to this office within thirty days of the date of this Notice, a written statement or explanation in reply, including; (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending this response time.

Dated 5/22/82



Thomas T. Martin, Director
Division of Engineering and
Technical Programs

9403220235 930527
PDR FOIA
RAMSDEL93-176 PDR

Docket No. 30-06891

OCT 12 1982

License No. 06-13514-01

Becton-Dickinson Company
ATTN: Andrew P. Rowjohn
- Plant Manager
Route 7 and Grace Way
North Canaan, Connecticut 06018

Gentlemen:

Subject: Inspection No. 30-06891/82-01

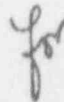
This refers to your letter dated September 27, 1982, in response to our letter dated August 30, 1982.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
John D. Kinneman



Thomas T. Martin, Director
Division of Engineering and
Technical Programs

cc:
Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
State of Connecticut

bcc:
Region I Docket Room (with concurrences)

Kinneman
RI:DETP
Friedman/lp
10/4/82

Kinneman
RI:DETP
Kinneman
10/7/82

OFFICIAL RECORD COPY

~~30-06891-11 XB~~

A-9

1E:07

B-D BECTON-DICKINSON

Route 7 and Grace Way, North Canaan, Connecticut 06018 / (203) 824-5487 / Division of Becton, Dickinson and Company

September 27, 1982

United States Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Attention: T.T.Martin, Director
Division of Engineering & Technical Programs

Docket # 30-06891 License # 06-13514-01 Inspection # 30-06891/82/01

Gentlemen:

This letter is in response to the August 2, 1982 inspection conducted by Dr. Friedman and your subsequent letter dated August 30, 1982.

As stated in my August 5, 1982 letter, the Cobalt fire suppression system will be operational on or before October 15, 1982.

Regarding the corrective action to the Class IV violation that was determined as a result of your inspection, our response is as follows:

1. Corrective steps taken and results achieved:

- a. The requirement for a leak-wipe test report when a sealed source exchange occurs and/or the requirement to conduct a leak/wipe test check (if a report is not received with the exchanged source) before using a new or exchanged sealed source has been reviewed with all licensed and administrative personnel.

The requirement as defined in the facility license to conduct leak/wipe checks at six months intervals with documentation has also been reviewed.

- b. A status board has been instituted to clearly indicate license and/or N.R.C. required safety and performance checks and reports. This status board shows the date a required check was last completed, the due date when a new repeat check is to be completed; and also it specifies by name, a licensed operator responsible for that check.

September 27, 1982

Docket # 30-06891 License # 06-13514-01 Inspection # 30-06891/82/01

-2-

- c. The legal and safety considerations attached to the need to complete and document safety and performance checks has been reviewed in detail with all personnel.
2. Corrective steps taken to avoid further violations:

Training programs have been reviewed and where necessary, revised to incorporate reference to need for compliance with all required performance/safety checks.

Emphasis on frequency and format for reporting compliance with license and N.R.C. requirements. Emphasize how to comply, where permanent records are to be kept, and to whom compliance is reported. Specific requirements have been incorporated in internal audit procedures.

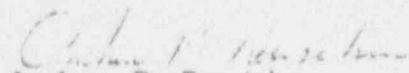
3. Date full compliance achieved:

Full compliance was achieved on August 16, 1982.

In conclusion, I have personally audited the Cobalt facility and find the corrective action procedures instituted by R. G. Crook to be satisfactory. I feel we are now in compliance with N.R.C. regulations including administrative and record keeping procedures.

Very truly yours,

BECTON, DICKINSON & COMPANY


Andrew P. Rowjohn
Plant Manager

hds



Atomic Energy
of Canada Limited

L'Énergie Atomique
du Canada, Limitée

E.I.C. Bill Case 203 824-5487
R.S.O.

Dobson

413 March Road,
P.O. Box 13500,
Kanata, Ontario,
Canada,
K2K 1X8

413 Chemin March,
C.P. 13500
Kanata, Ontario,
Canada,
K2K 1X8

Tel (613) 592-2790
Telex 053-4162

NOTE: 49,681 curies cobalt 60 as of
Dec. 11, 1984 being returned
to Ottawa

AGREEMENT NON-AGREEMENT
STATE

NOTIFICATION OF FIELD WORK P&S 56104

SITE (USER): Becton-Dickinson, Route 7 and Graceway, Canaan,
Connecticut, USA 06018

CALL (AGENCY): Mr. Kinnerman at 215 337-5252, Region 1, USNRC, Office
of Inspection & Enforcement, 631 Park Ave., King of Prussia, PA
19406

TYPE OF WORK TO BE DONE: (SUBJECT TO USNRC OR AGREEMENT STATE APPROVAL)
Install cobalt 60 in IR #21. Present loading 797,087 Ci of cobalt 60.
Additional loading 498,440 Ci of cobalt 60 as of Nov. 13, 1984.

DATE(S) OF WORK TO BE DONE: 11, 12 & 13 Dec. 1984.

ACTIVITY: New total - 1,292,295 ci of cobalt 60 as of Dec. 1, 1984.

AECL FIELD WORK LICENSE(S): USNRC 54-00300-09

SHIPPING LICENSE(S): CDN/2012/B(U)T Rev 11

See Note Below

AUTHORIZED TECHNICIAN(S): USA/6306/B(U) Rev 5

George Duncan, Frank Dowd

SERVICE TECHNICIAN WILL CARRY TO THE SITE AND WILL ADHERE TO:

1. Copy of license(s)
2. Installation/Service/Shipping Procedure(s)
3. Berthold Ratio/F Survey Instrument (verify calibration)
4. Personal dosimeters (2)
5. TLD Waist Badge
6. 10 CFR 19
7. 10 CFR 20
8. Wipe Test Materials and Routine Leak Test Report
9. All documents referenced on license(s)
10. Form NRC-3 : Notice to Employees.
11. Pertinent Documentation re: Shipping Container(s)
12. On-site Inspection Report
13. Pertinent Federal and Agreement State Regulation

RADIATION SURVEY OF UNIT/FACILITY:

To be left with or forwarded to customer within 30 days of
installation.

NOTIFICATION PREPARED BY F. Dowd *FD* DATE: 84-12-06

NOTIFICATION MADE BY F. Dowd *FD* DATE: 84-12-06

NFW-3 11 Oct. 1983

NOTE: USDOT Certificate No. USA/6306/B(U) Rev 5 is for direct

DEC 13 1984

A-10



Atomic Energy
of Canada Limited

L'Énergie Atomique
du Canada, Limitée

E.I.C. Bill Cas
R.S.O. (203) 82-5487

413 March Road,
P.O. Box 13500,
Kanata, Ontario,
Canada,
K2K 1X8

413 Chemin March,
C.P. 13500
Kanata, Ontario,
Canada,
K2K 1X8

Tel (613) 592-2790
Telex 053-4162

AGREEMENT NON-AGREEMENT
STATE

NOTIFICATION OF FIELD WORK P&S 56224

SITE (USER): Becton-Dickinson, Route 7 and Graceway
Canaan, Connecticut, 06018

CALL (AGENCY): John Kinnerman (215) 337-5252, Region I, USNRC Office of Inspection
and Enforcement, 631 Park Avenue, King of Prussia, PA 19406

TYPE OF WORK TO BE DONE: (SUBJECT TO USNRC OR AGREEMENT STATE APPROVAL)

Replace hoist cable. Install auxilliary electric safety panel.
Cobalt-60 loading #8 of IR-21, remove 54,970 Ci of cobalt-60 as of 1985 April 1
Add 197,323 Ci of cobalt-60 as of April 1, 1985
New total loading 1,379,439 Ci of cobalt-60 as of April 1, 1985
Old total 1,237,086 Ci of cobalt-60 as of 1985 April 1
DATE(S) OF WORK TO BE DONE: 1985 April 1 - 5

ACTIVITY:

AECL FIELD WORK LICENSE(S): USNRC 54-00300-09
SHIPPING LICENSE(S): CDN/2012/B(U)T, Rev. 11
AUTHORIZED TECHNICIAN(S): USA/6306/B, Rev. 5

See Note Below

S. Jaeger and F. Dowd
SERVICE TECHNICIAN WILL CARRY TO THE SITE AND WILL ADHERE TO:

1. Copy of license(s)
2. Installation/Service/Shipping Procedure(s)
3. Berthold Rato/F Survey Instrument (verify calibration)
4. Personal dosimeters (2)
5. TLD Waist Badge
6. 10 CFR 19
7. 10 CFR 20
8. Wipe Test Materials and Routine Leak Test Report
9. All documents referenced on license(s)
10. Form NRC-3 : Notice to Employees.
11. Pertinent Documentation re: Shipping Container(s)
12. On-site Inspection Report
13. Pertinent Federal and Agreement State Regulation

RADIATION SURVEY OF UNIT/FACILITY:

To be left with or forwarded to customer within 30 days of
installation.

NOTIFICATION PREPARED BY E. Dowd 22 DATE: 85-3-26

NOTIFICATION MADE BY F. Dowd 22 DATE: 85-3-26 - Time 10:00 am

NFW-3 11 Oct. 1983

NOTE: USDOT Certificate No. N/A is for direct
export to Canada - not for domestic use in USA & Protectorates.

A-11



Atomic Energy
Of Canada Limited

L'Énergie Atomique
du Canada, Limitée

Radiochemical Company

Société radiochimique

413 March Road,
P.O. Box 13500
Kanata, Ontario,
Canada,
K2K 1X8

413 Chemin March,
C.P. 13500
Kanata, Ontario,
Canada,
K2K 1X8

Tel (613) 592-2790
Telex 053-4162

1985 April 19

File: F92108

Mr. Paul Guinn
License Management Branch
Division of Fuel Cycle & Material Safety
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

APR 23 1985
LICENSING BRANCH

Dear Mr. Guinn:

Subject: Radiation Survey Report as per Condition 16 of
USNRC Lic. No. 54-00300-09 Category IV Irradiator
Serial No. IR-21

In accordance with Condition 16 of this license, I enclose a report of the building radiation survey performed 1985 April 2. Your Region I office is being informed by copy of this letter.

Site: Becton-Dickinson
Division of Becton-Dickinson & Company
Route 7 and Graceway
Canaan, Conn. 06018

Description of Work: Removal of and return to AECL-RCC for inspection 54,970 curies cobalt-60 and the addition of 197,323 curies cobalt-60 giving a total source content of 1,379,439 curies cobalt-60 as of 1985 April 1.

Authorized Technicians: Steve Jaeger
Frank Dowd

Yours truly,

M L McIndoo
Mavis L. McIndoo
Physics Group
Industrial Irradiation Division

/cpg
Encl.

cc: Dr. John Glen ←
U.S.N.R.C., Region I
631 Park Avenue

5/8/85
Mavis L. McIndoo
Brown
5/4/85

A-12

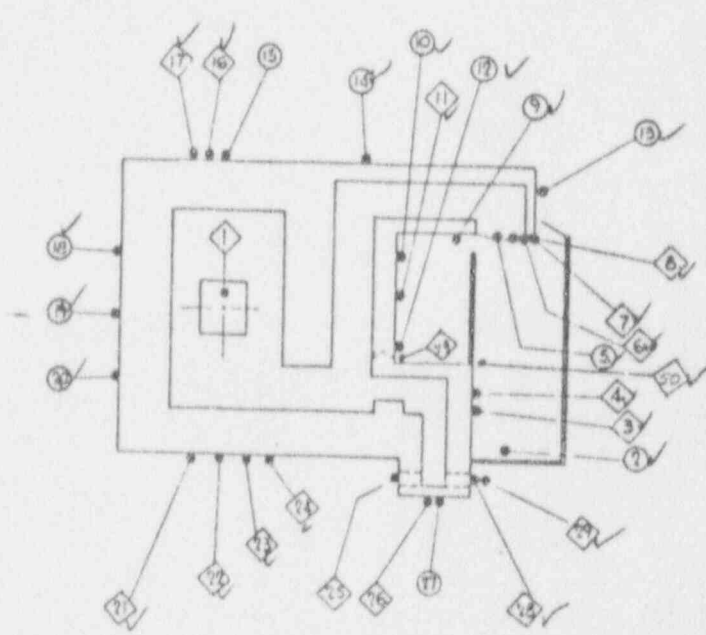
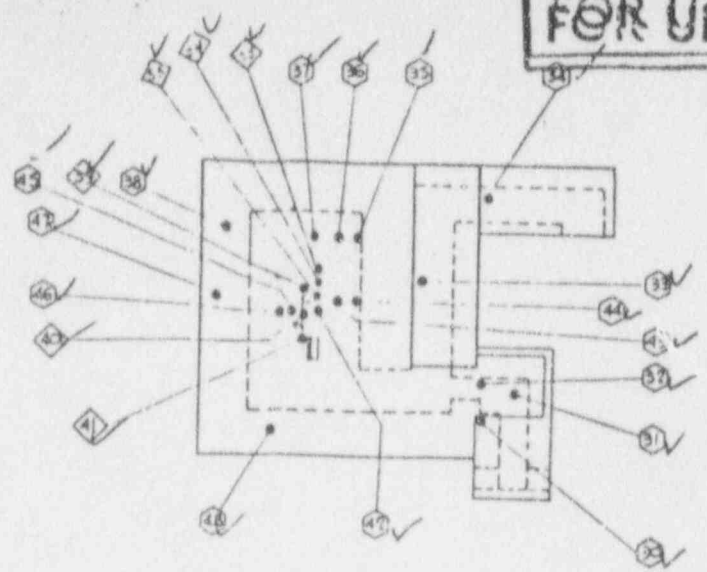
00 8 15 62 201 581 "OFFICIAL RECORD COPY"
ML10 03731

8506170634 19406
5501 11030

FEE... APR 29 1985

FOR UNIT HISTORY

ALL READINGS IN mrem/h
 READINGS LESS THAN 0.03 mrem/h
 ARE NOT LISTED



- AT 1m ABOVE FLOOR
- AT FLOOR OR ON ROOF
- ◇ ON NAMED FEATURE (SURVEYOR TO ADD AS NECESSARY)

NO	READING	REMARKS
1		
2	0.7	POOL SURFACE
3	0.3	CONSOLE
4	0.05	LOCAL SPOT
5	0.1	LOCAL SPOT
6	0.3	THROUGH DOOR
7	1	CRACK OVER DOOR
8	0.8	CRACK UNDER DOOR
9	0.05	DOOR SIDE CRACK
10	0.3	
11	0.05	DUCT NEAR TOP OF WALL
12	0.1	
13	0.5	
14	0.1	
15	1.05	
16	0.1	BEHIND CYLINDER
17	0.09	BEHIND CYLINDER
18	0.02	
19	0.3	
20	0.05	
21	0.6	
22	0.1	
23	0.1	
24	0.4	
25	0.9	MAX AT DISCHARGE
26	0.3	PORT AT CONVEYOR
27	0.2	
28	1	MAX AT ENTRY
29	0.3	PNEUM. CYLINDER
30	0.1	
31	0.04	
32	0.08	
33	0.1	
34	0.05	
35	0.05	
36	0.07	
37	0.1	
38	0.07	
39	0.2	GUIDE CABLE
40	0.5	HOIST CABLE
41	0.2	GUIDE CABLE
42	0.4	
43	0.4	
44	0.1	
45	2.8	
46	0.8	
47	0.8	
48	0.08	
49	0.3	TRENCH
50	0.04	PROGEN LAB ABOVE CONTROL ROOM
51		
52		
53	1.9	ALUMINUM PLUG
54	0.9	ALUMINUM PLUS
55	1.1	ALUMINUM PLUS
56		
57		
58		
59		
60		

SURVEY TO USNRC

NOTE:
 ROOF (POSITIONS 30-48) IS A RESTRICTED AREA

MAXIMUM RADIATION DESIGN LEAKAGE SO THAT NO ONE SHALL RECEIVE MORE THAN 10 mrem IN A 40 HOUR WORK WEEK WITH 1.5×10^6 CURIES OF COBALT-60 INSTALLED

OCCUPANCY HOURS/WEK	DOSE RATE IN mrem/h IN AREA	
	MAXIMUM	AVERAGE
40	20	0.25

SURVEY PERFORMED BY F. POWD
 DATE 4 April 1985 S. JAEGER

ATOMIC ENERGY OF CANADA LIMITED
 OTTAWA COMMERCIAL PRODUCTS CANADA

SURVEY INSTRUMENT MODEL BERTHOOLD RATH
 SERIAL NO. 2105 CALIBRATION DATE 85-6-19
 SOURCE CONTENT 1,379,439 CURIES
 ON DATE 124 8 1985

RADIATION SURVEY REPORT
 AFTER SOURCE INSTALLATION NO. ---
 IN IR 21
BECTON-DICKINSON
CANAAN

NAME: BECTON DICKINSON
 DEPARTMENT: DIV. OF BECTON, DICKINSON & CO.
 STREET: RT 7 & GRACEWAY ROAD
 CITY: NORTH CANAAN STATE: CT ZIP: 06018

A-13

LICENSE NUMBER: 06-13514-01 DOCKET: 3006891
 LICENSE EXPIRATION: 30-JUN-96 NRC REGION: 1

PROGRAM CODE: 03521 - "Irradiators Other, Greater than 10,000 Curies"
 STATUS: Monitoring Provided (not required to report per 10CFR20.407)

Number of Individuals in Each Dose Range (doses in rem)

Prog. Code	Year	No Meas Dose	Meas. <0.10	0.10 -0.25	0.25 -0.50	0.50 -0.75	0.75 -1.00	>1.00	Total# Monit.	Number w/ Measurable	Collective Dose
03520	1978	81	5					0	86	5	0.250
03520	1979	70	5					0	75	5	0.250
03520	1980	62	4	4	1	1		0	72	10	1.900
03520	1981	76	15					0	91	15	0.750
03520	1982	83	2					0	85	2	0.100
03520	1983	36	1					0	37	1	0.050
03520	1984	39	4					0	43	4	0.200
03520	1985	52	7					0	59	7	0.350
03520	1986	30						0	30	0	0.000
03520	1987	38	6	1				0	45	7	0.475
03520	1988	40	6	0	1			0	47	7	0.675
03520	1989	56	3					0	59	3	0.150
03520	1990	47	10					0	57	10	0.500
03521	1991	76	21					0	97	21	1.050

FOIA - 93-176 - Review