NRC Form 313T (2-82) 10 CFR 35

U.S. NUCLEAR REGULATORY COMMISSION

Approved by OMB 3150-0061 Expires 1-31-85

APPLICATION FOR MATERIALS LICENSE -- TELETHERAPY

INSTRUCTIONS – Complete Items 1 through 22 if this is an initial application or an application for renewal of a license. Use supplemental sheets where necessary. Item 22 must be completed on all applications and signed. Retain one copy. Submit original and one copy of entire application to: Director, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Upon approval of this application, the applicant will receive a Materials License. An NRC Materials License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30, and the Licensee is subject to Title 10, Code of Federal Regulations, Parts 19, 20, 21, and 35 and the license fee provision of Title 10, Code of Federal Regulations, Part 170. The license fee category should be stated in item 22 and the appropriate fee enclosed.

1.a. NAME AND MAILING ADDRESS OF APPLICANT *(Institution, firm, clinic, physician, etc.)* INCLUDE ZIP CODE

Wausau Hospital Center
333 Pine Ridge Boulevard
Wausau, WI 54401

1.b. STREET ADDRESS(ES), ACTUAL LOCATION OF TELETHERAPY SOURCE, INCLUDING BUILDING NAME, ROOM NUMBER, ETC.

Wausau Hospital Center
333 Pine Ridge Boulevard
Wausau, WI 54401

TELEPHONE – AREA CODE (715) NUMBER 847-2121

2. PERSON TO CONTACT REGARDING THIS APPLICATION

David B. Porter, R.S.O.

TELEPHONE – AREA CODE (715) NUMBER 847-2866

3. THIS IS AN APPLICATION FOR: *(Check appropriate item)*

- [ ] a. NEW LICENSE
- [ ] b. AMENDMENT TO LICENSE NO. _____
- [X] c. RENEWAL OF LICENSE NO. 48-12760-03

4. INDIVIDUAL USERS *(Name individuals who will use or directly supervise use of radioactive material. Complete Supplements A and B for each individual.)*

J. H. Martens, M.D.
G. H. Brister, M.D.
J. M. Foerster, M.D.
D. M. Nowinski, M.D.
A. R. Bourque, M.D.

5. RADIATION SAFETY OFFICER (RSO) *(Name of person designated as radiation safety officer. If other than individual user, complete resume of training and experience in Supplement A.)*

David B. Porter

6. SEALED SOURCES TO BE USED IN TELETHERAPY UNITS *(Attach supplemental pages if necessary)*

	BYPRODUCT MATERIAL *(Element and Mass No.)*	NAME OF SOURCE MANUFACTURER	SOURCE MODEL NUMBER	MAXIMUM ACTIVITY PER SOURCE	NUMBER OF SOURCES
A.	Cobalt - 60	Atomic Energy of Canada Ltd.	C-146 or C-151	7000 Curies	2
B.					
C.					

7. TELETHERAPY UNITS *(Attach supplemental pages, if necessary)*

	NAME OF MANUFACTURER *(Include description, if unit is custom made)*	MODEL NUMBER
A.	Atomic Energy of Canada Limited	Theratron 80
B.		
C.		

8. USE *(Attach supplementary pages, if necessary)*

A	B	C	
X			HUMAN USE ONLY
			HUMAN AND OTHER USE *(Specify on separate sheet)*

9. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate)	SUPPLIER (Service Company)	EXCHANGE FREQUENCY
(1) FILM BADGE - WHOLE BODY	R. S. Landauer, Jr. & Co.	Monthly
(2) THERMOLUMINESCENT DOSIMETER (TLD) - WHOLE BODY		
(3) OTHER *(Specify)*		

INFORMATION REQUIRED FOR ITEMS 10 THROUGH 21

For Items 10 through 21, check the appropriate box(es) and submit a detailed description of all the requested information. Begin each item on a separate sheet. Identify the item number and the date of the application in the lower right corner of each page. If you indicate that an appendix to the teletherapy licensing guide will be followed, do not submit the pages, but specify the revision number and date of the referenced guide. Regulatory Guide 10.

~~8~~X Date March 82
Guide "for comment"

10. MEDICAL ISOTOPE COMMITTEE		15. BEAM STOPS	
	Names and specialties attached; and *(check one)*	X	Description of stops used to restrict beam orientation attached.
X	a. Duties as in Appendix A, or	16. SHIELDING EVALUATION	
	b. Equivalent duties attached.		Evaluation of proposed shielding attached.
11. TRAINING AND EXPERIENCE		17. OPERATING AND EMERGENCY PROCEDURES	
	a. Supplements A & B attached for each individual user; and	X	a. Description of operating procedures attached; and
	b. Supplement A attached for RSO,	X	b. Copy of emergency procedures attached.
12. INSTRUMENTATION *(check one)*		18. INSTRUCTION OF PERSONNEL *(check one)*	
X	a. Appendix C form attached, or	X	a. Training program and schedule in Appendix H followed, or
	b. List manufacturer's name and model number.		b. Description of instruction program for employees attached.
13. CALIBRATION OF INSTRUMENTS *(check one)*		19. LEAK TESTS OF SEALED SOURCES	
	a. Appendix D, Part 2 procedures followed for instrumentation calibration, or	X	Description of leak test procedures attached.
X	b. Description of sources, calibration frequency and equivalent procedures attached.	20. QUALIFIED EXPERT *(Use only if the individual fails to meet 10 CFR 35.24 requirements.)*	
14. FACILITIES AND EQUIPMENT			Statement of qualifications of the expert who will perform teletherapy calibrations attached.
	a. Description and drawing of facilities attached; and	21. ALARA PROGRAM *(check one)*	
X	b. Description of patient viewing and communicating systems attached; and	X	ALARA Program as in Appendix I, or
	c. Description of area safeguards attached.		Equivalent ALARA Program attached.

22. CERTIFICATE

(This item must be completed by the applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1a certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, Parts 30 and 35, and that all information contained herein, including supplements attached hereto, is true and correct to the best of our knowledge and belief.

a. LICENSE FEE REQUIRED *(See section 170.31, 10 CFR 170)*

Control No. 7 7 5 6 4

(1) LICENSE FEE CATEGORY
Part 170, 7.A.

(2) LICENSE FEE ENCLOSED
$ 350.00

b. APPLICANT OR CERTIFYING OFFICIAL *(Signature)*

(1) NAME *(Type or print)*
Philip O. Aulwes

(2) TITLE
Assistant Vice President

c. DATE
August 21, 1984

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1948, 62 Stat. 749, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

RADIATION SAFETY COMMITTEE

V. Luthra, M.D.	Nuclear Medicine Physician, Chairman
R. D. Bartholomew, M.D.	Pathology Physician
A. R. Bourque, M.D.	Radiation Therapy Physician
D. J. Freeman, M.D.	Cardiology Physician
J. H. Martens, M.D.	Radiation Therapy Physician
Phil Aulwes	Vice President of Operations
Catherine Dickinson, R.N.	Medical Floor Nursing Representative
Judy Wincentsen	Quality Control Technologist
Jim Harroun	Hospital Safety Director
Bill Krambs	Radiology Director
Dave Porter	Radiation Safety Officer/Physicist
Pat Roberts	Nuclear Medicine Section Head
Joyce Gorski	Radiology Chief Technologist

updated: 7/84

Item 10
August 20, 1984

All individual users listed in Item 4 have been previously authorized to perform teletherapy treatment on License Number 48-12760-03.

D. Porter has been previously authorized to be a radiation safety officer on license number 48-12760-03.

Item 11
August 20, 1984

APPENDIX C

INSTRUMENTATION

1. Survey meters

   a. Manufacturer's name: Victoreen Instrument Co.
   Manufacturer's model number: Model No. 6
   Number of instruments available: 2
   Minimum range: 0 mr/hr to 0.5 mr/hr
   Maximum range: 0 mr/hr to 50 mr/hr

   b. Manufacturer's name: Eberline
   Manufacturer's model number: RO-1
   Number of instruments available: 1
   Ranges: 5,50,500 mR/hr, 5, 50, 500 R/hr
   Minimum range: 0 mr/hr to 5 mr/hr
   Maximum range: 0 mr/hr to 500,000 mr/hr

2. Beam-on Monitor

   Manufacturer's name: Nuclear Associates, Inc.
   Manufacturer's model number: Primalert 10
   Number of instruments available: 1
   Backup Battery Power Supply: Yes xx No ____

3. Dosimetry System

   a. Electrometer

   Manufacturer's name: Victoreen Instrument Co.
   Manufacturer's model number: 570

   b. Probes

   Manufacturer's name: Victoreen Instrument Co.
   Manufacturer's model number: 621
   Number of probes: 1
   Ranges: 100R

4. Other (use additional pages)

WAUSAU HOSPITAL CENTER

POLICY/PROCEDURE CONTROL NUMBER	Page 1 of 2
ORIGINAL EFFECTIVE DATE	May 1981
PROPOSED BY	David B. Porter, Radiology
COMMITTEE/DEPT APPROVAL AND DATES	
DATE OF REVIEW AND INITIALS /19 /19 /19 /19 /19	
H.E.C. SIGNATURE TITLE AND DATE	

SUBJECT:

SURVEY METER CALLIBRATION PROCEDURE

Calibration of all survey meters will be performed as necessary, but at least annually. Indications for re-calibration before the annual time limit will be:

a. For the Geiger counter survey meters, a variation in the measured average exposure rate from the check source located on the side of the case of $\pm$ 10%. Check source counting is done before each use.

b. For all survey meters, a single measurement of the exposure rate from the Cesium-137 standard source will be made on a semi-annual basis. The resulting measurement will be in the mid range of the most sensitive scale. A deviation of $\pm$ 10% from the calculated, expected value will be grounds for re-calibration.

c. For all survey meters after repair.

The annual calibration and semi-annual check will be performed using Cesium-137 sealed sources.

The annual calibration of the survey meters will be performed at two points on each scale. The two points will be at one-third and two-thirds of full scale. The survey instrument may be considered properly calibrated when the instrument readings are $\pm$ 10% of the calculated, expected value for each point check.

The calibration procedure begins by first calculating the source-detector distances, d_i , required to yield the desired exposures, i.e., one-third and two-thirds full scale for each range for each instrument. The following formula is used.

$$d_i = \sqrt{\frac{\Gamma A}{E}}$$

Where Γ = factor for Cesium-137,

A = activity of Ce-137 standard source corrected for radioactive decay,

E = desired exposure, i.e., one-third and two-thirds full scale for each range of each instrument.

Item 13
August 20, 1984

WAUSAU HOSPITAL CENTER

The shielded sources are then placed in an unoccupied area of which there is minimal scatter. A tape measure is laid out with a source at 0 cm. The Cesium is removed from the steel jacketed, lead-filled storage container with an extension rod. Each instrument is then checked at the appropriate source-detector distances and adjusted as necessary to assure an accuracy of ± 10% for all readings.

During the calibration procedures, the calibrator will be monitored by both a full body badge and a TLD ring badge. Also, the calibration area will be placarded with "Caution-Radioactive Materials-Radiation Area" at or below 2 mR/hour isodose rate line surroundin the calibration area. This will aid in ensuring that no individual will receive exposur in excess of the maximum permissible dose.

Item 13
August 20, 1984

Patient viewing is accomplished by two means. First, therapy technologists may observe patients in a two foot diameter concave mirror by peering through the glass in the treatment room door. Second, a television monitoring system is provided for continuous observation of patients.

An audio communication system is provided. Therapy technologists continuously monitor all sounds from the treatment room.

The beam is limited to intersect the beam stopper, unless pointed to the north wall, or floor and the 90° arc between the north wall and floor. Grade only is beyond the north wall and floor.

Radiation Therapy Operating Procedures

1. Daily safety checks shall include function of door interlock, gantry unit "on" light, console "on"/"off" lights, primalert, and emergency off buttons at the console and treatment table. Malfunctions shall be immediately reported to the Radiation Safety Officer. In the event of malfunction of the door interlock, gantry unit on light, console on/off lights, or emergency off buttons, patient treatment shall be suspended until proper function is assured. Patient treatments may continue with malfunction of the primalert, however, the therapy technologist entering the teletherapy room following an irradiation shall enter with an operable, calibrated radiation survey meter and shall first determine the beam condition.

2. Teletherapy personnel shall wear film badge type monitoring devices. Film badges shall remain in the therapy department office at the end of each day. Film badges shall monitor personal radiation exposure at work only and shall not be shared with another person. Accidental mistreatment of film badges shall be reported to the Radiation Safety Officer.

3. The teletherapy room shall be locked when unattended. The teletherapy unit operating key shall not remain at the console unattended.

4. The dosimetry system shall be calibrated by a Regional Calibration Laboratory accredited by the American Association of Physicists in Medicine. The dosimetry system shall have been calibrated within the previous two years and after any servicing that may have affected system calibration. Special care shall be excercised in preparing the dosimetry system for shipment to a calibration facility.

5. The annual full calibration of the teletherapy unit shall be performed by the Radiation Safety Officer. Full calibration measurements shall also be performed when (1) spot check measurements indicate that the output value differs by more than 5% from the value obtained from the last full calibration corrected mathematically for physical decay, (2) following replacement of the radiation source, and (3) following any repair of the teletherapy unit that includes removal of the source or major repair of the components associated with the source exposure assembly. Full calibration measurements shall include (1) determination of the exposure rate or dose rate to an accuracy within +/- 3% for the range of field sizes and for the range of distances used in radiation therapy, (2) the congruence between the radiation field and the field indicated by the light beam localizing device, (3) the uniformity of the radiation field and its dependence upon the orientation of the useful beam, (4) the timer accuracy, and (5) the accuracy of all distance measuring devices used for treating patients. Full calibration measurements shall be made in accordance with the procedures recommended by the Scientific Committee and Radiation Dosimetry of the American Association of Physicists in Medicine. The exposure rate or dose rate values shall be corrected mathematically for physical decay for intervals not to exceed one month.

6. Monthly spot check measurements shall include determination of timer accuracy, the congruence between the radiation field and the field indicated by the light beam localizing device, the accuracy of all distance measuring devices used for treating patients, the exposure rate, dose rate, or a quantity related in a known manner to these rates for one typical set of operating conditions, and the difference between the measurement made with this spot check and the anticipated output expressed as a percentage of the anticipated output. Spot checks shall be performed by the Radiation Safety Officer.

7. The teletherapy source shall be tested for leakage at intervals not to exceed 6 months. Records of test results shall be kept in units of microcuries and maintained for inspection by the Nuclear Regulatory Commission. In the absence of a leak test certificate for a new source from a transferror, the source shall not be used until tested for leakage. Test samples shall be taken from all accessible collimator surfaces. Test samples shall be taken with the source in the "off" position. Test samples shall be measured using the well counter in the Nuclear Medicine Department, Wausau Hospital Center. Counts per microcurie shall be determined with a calibrated microcurie source of Cobalt-60. Background levels shall also be determined. If the test reveals the presence of 0.05 microcurie or more of removal contamination, the Radiation Safety Officer shall promptly take action to prevent spread of contamination and shall file a report within five days of the test with the Region III, Nuclear Regulatory Commission describing the test results and the corrective action taken.

8. Records of daily checks, monthly spot check measurements and annual full calibrations shall be maintained for inspection by the Nuclear Regulatory Commission.

Leak testing shall be performed by the radiation safety officer at Wausau Hospital Center. The measuring instrument shall be an ADC Medical Model 300 well counter. Calibration in counts per minute is obtained with a calibrated microcurie source of Cobalt-60. High voltage, window and baseline adjustments on the well counter are made with the same microcurie source of Cobalt-60. Sensitivity of this instrument is satisfactory because 0.05 microcuries yields counts per minute approximately 300 times background.

Dry swab samples shall be obtained from the accessible surfaces of the primary collimator, lower collimators, trimmers and crosshairs. Wet swab samples will then be obtained for those same surfaces. Swabs will be grouped in bags.

Each bag of swab samples shall be measured in the well counter for one minute. The measured counts per minute shall be corrected for background and normalized to units of microcuries.

If the leak test indicates the presence of 0.05 microcuries or more of removable contamination, the Radiation Safety Officer shall promptly take action to prevent spread of contamination and shall file a report within five days of the test with the Nuclear Regulatory Commission, Region III describing the test results and corrective action.

Teletherapy Survey Report
(Following Source Change)

The survey was conducted by David B. Porter, RSO.

The survey was conducted because a new Cobalt-60 teletherapy source was installed.

The survey was conducted on Friday, July 27, and Monday, July 30, 1984.

The survey instrument was a Victoreen Model Thyac III, last calibrated on December 7, 1983 with Cesium-137 brachytherapy sources with an exposure rate error of +/- 8%. The calibration procedure is identified in Item 13 of the renewal application.

The intensity of the primary beam of radiation was determined with a Victoreen Model 570 electrometer and Model 621-100R ion chamber. The dosimetry system was last calibrated in December 1982 at the Accredited Dosimetry Calibration Laboratory at M. D. Anderson Hospital, Houston, Texas.

The teletherapy unit is an Atomic Energy of Canada Limited Theratron 80.

The teletherapy source is an Atomic Energy of Canada Limited Type C-146.

The activity of the source on July 27, 1984 was 5743 Curies Cobalt-60.

The measured output of the primary beam of radiation in air at 80 cm for a field size of 10 x 10 cm is 153.1 R/minute.

The teletherapy head survey, Figure F-1 is attached.

The beam is limited to intersect the beam stopper, unless pointed to the north wall, or floor, and the 90° arc between the north wall and floor. Grade only is beyond the north wall and floor.

The radiation survey of adjacent areas was performed wtih a water phantom with water volume 31 cm long x 31 cm wide x 25 cm deep. The center of the water volume was placed at isocenter, and the maximum field size of 24.5 cm x 24.5 cm was used. Exposure rate measurement positions are indicated on the attached sketch of the teletherapy room and adjacent areas. Positions are indicated from A to I. Twelve measurements are made at each position, i.e., for each of twelve beam orientations from 0° to 330° in 30° increements. The measured exposure rates are indicated on the attached table. As is indicated, no exposure rates exceed 2 mR/hour, and hence, the maximum permissible dose is not exceeded beyond any of the radiation barriers.

Survey measurements were not made with the primary beam directed away from the beam stopper because only the floor and north wall are primary barriers and both of those are below grade.

The teletherapy treatment room door interlock was evaluated. The Thyac III survey meter indicates that the radiation beam turns off immediately upon opening of the door. The door must be closed and the "on-off" control at the console must be reset before the radiation beam may be turned on again.

The Thyac III survey meter indicates that the red lights on the gantry, over the door and on the console function only when the radiation beam is on.

The Thyac III survey meter indicates proper function of the sector interlocks. The sector interlock was tested with the beam stopper and with beam orientations from 0° to 330° in 30° increments. The survey meter and teletherapy unit console confirm that the radiation beam will turn on only when aimed at the floor, north wall, and the 90° sector inbetween the floor and north wall.

The teletherapy treatment unit timer was found to be accurate when compared with a stopwatch. The verification timer was also found to be accurate when compared with a stopwatch.

The Thyac III survey meter confirms that the source returns to the "off" position at the end of a preset time, and the source will not return to the "on" position until after the timer is reset.

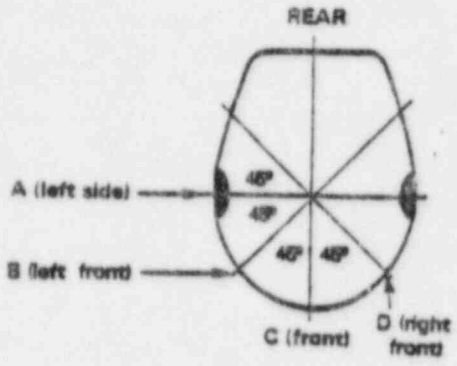
The five-year inspection certificate is attached. The source disposal certificate for our previous teletherapy source is also attached.

Figure F-1
TELETHERAPY HEAD SURVEY

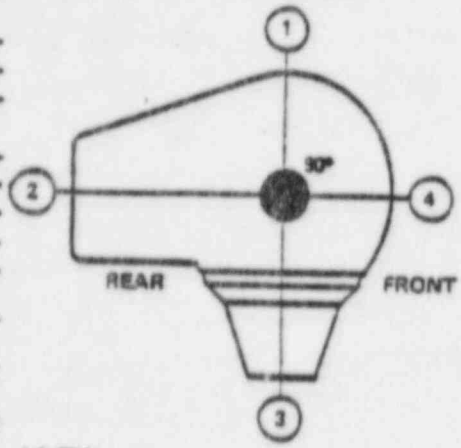
(Source in "OFF" position. Measurements taken one meter from source)

	Position No.	Radiation Level (mr/hr)
View A	1	2.0
	2	0.4
	3	4.2
	4	0.3
View B	5	1.2
	6	1.7
	7	0.7
	8	0.17
View C	9	1.6
	10	1.6
View D	11	0.16
	12	0.6
	13	1.5
	14	1.2
Average value		1.2
Maximum value		4.2

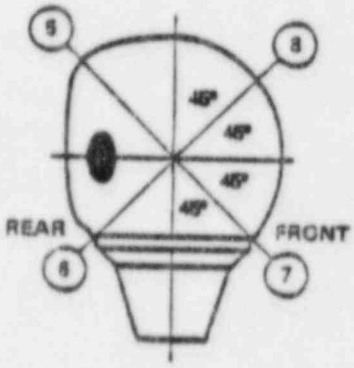
Top View-Showing orientation of Views A through D



View A-Vertical from left side



View B-Vertical from left front



Date of survey JULY 30, 1984

Instrument used VICTOREEN THYAC III

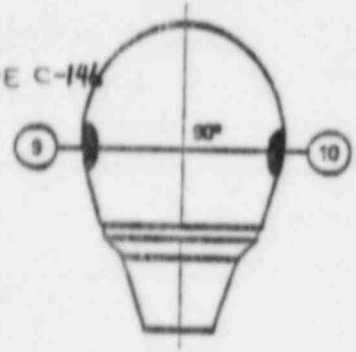
Manufacturer's name & model number of teletherapy source AECL TYPE C-144

Date of installation JULY 27, 1984

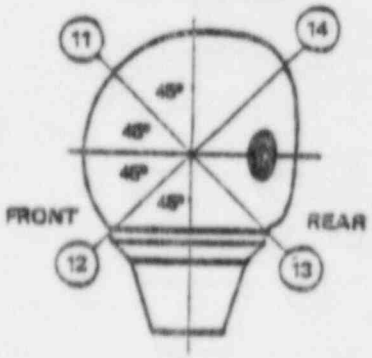
OUTPUT 98.0 ☐ RHM ☒ RMM

Date of output measurement JULY 27, 1984

View C-Vertical from front

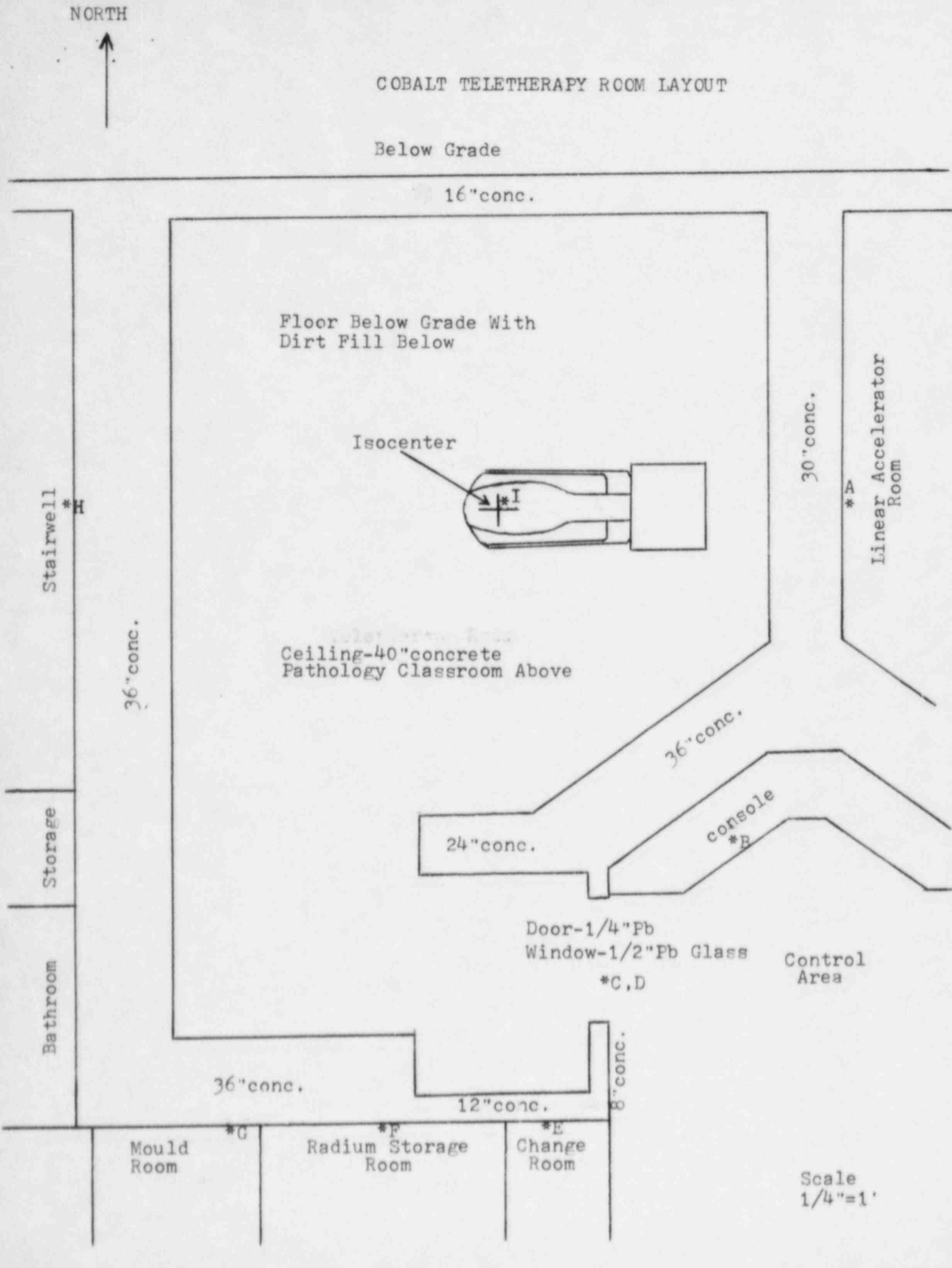


View D-Vertical from right front



David B. Porter, RSO 7-30-84 0600

ALL MEASUREMENTS MADE PRIOR TO PATIENT TREATMENT. DBP


NORTH
COBALT TELETHERAPY ROOM LAYOUT
Below Grade
16"conc.
Floor Below Grade With
Dirt Fill Below
Isocenter
*I
30"conc.
*A
Linear Accelerator
Room
Stairwell
*H
36"conc.
Ceiling-40"concrete
Pathology Classroom Above
36"conc.
console
*B
24"conc.
Storage
Bathroom
Door-1/4"Pb
Window-1/2"Pb Glass
*C,D
Control
Area
36"conc.
12"conc.
8"conc.
*G
Mould
Room
*F
Radium Storage
Room
*E
Change
Room
Scale
1/4"=1'

RADIATION AREA SURVEY

mR/Hour

Position	Area	Beam Orientation 0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°	MAXIMUM
A	Linear Accelerator Room	.02	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	.02
B	Control Area	.02	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	.02
C	Door	.09	.2	.3	.4	.3	.15	.1	.05	.05	<.05	.05	.05	.4
D	Window in Door	.09	.4	.9	1.1	.9	.5	.2	.05	.05	.1	<.05	.05	1.1
E	Change Room	.05	.1	.2	.15	.1	.2	.1	.15	.15	.15	.15	.15	.15
F	Radium Storage Room	.06	.1	.15	.15	.15	.15	.1	.15	.05	.1	.05	.1	.15
G	Mould Room	.03	<.05	<.05	<.05	<.05	<.05	<.05	.05	<.05	<.05	<.05	<.05	.03
H	Stairwell	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05
I	Pathology Classroom	.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	.05

Control No. 77364

Atomic Energy of Canada Limited
Commercial Products

INSPECTION CERTIFICATE

AUTHORIZED INSPECTION AND SERVICING OF AECL TELETHERAPY UNIT

MODEL NO. T80 SERIAL NO. 152

TELETHERAPY SOURCE SERIAL NO. 3629 CURIES 5747 DATE JUNE 25-1984

CUSTOMER WAUSAU HOSPITAL CENTER

WAUSAU WISCONSIN

This teletherapy unit was inspected and serviced in accordance with Atomic Energy of Canada Limited USNRC License No. 54-00300-04.

Date of Inspection JULY 27-1984

This is to certify that the unit was inspected and serviced in accordance with the conditions of the License. Each teletherapy machine shall be fully inspected and serviced during source replacement or at intervals not to exceed five years.

By W. T. Schlueger A.E.Q. JULY 27-1984

Authorized Source Handler (date)

WHITE: CUSTOMER - ON SITE
CANARY: OTTAWA - UNIT HISTORY FILE
PINK: OTTAWA E.P. UNIT HISTORY FILE
BLUE: REGIONAL OFFICE

MED-022

Atomic Energy of Canada Limited

SOURCE DISPOSAL CERTIFICATE

TO WHOM IT MAY CONCERN:

This is to certify that the following source has been removed from the unit described herein, and returned to Atomic Energy of Canada Limited, Commercial Products, Ottawa, Ontario, Canada for disposal:

COBALT 60 OR CAESIUM 137 SEALED SOURCE SERIAL NO	DEPLETED URANIUM	UNIT	UNIT SERIAL NO
S-2902	lb	THERATRON 80	152

LOCATION OF UNIT

WAUSAU HOSPITAL CENTER

WAUSAU WISCONSIN.

Date JULY 27- 1984 Signed W. T. Schlueger DECD.

A.E.C.L. Service Representative

Control No. 77364

MED-021-1

WHITE: CUSTOMER - ON SITE
GREEN: OTTAWA - UNIT HISTORY FILE
CANARY: OTTAWA - ISOTOPE LAB.
PINK: REGIONAL OFFICE
GOLDEN ROD: EXTRA COPY