



Saint Francis Hospital Center

MICHAEL D. VOLLMER
VICE PRESIDENT
PROFESSIONAL SERVICES

April 22, 1988

U.S. Nuclear Regulatory Commission
Region III
Material Licensing Section
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Reference Control No. 85061

Ms. Vacherlon,

Please find enclosed the additional information requested in your letter dated 3/29/88 regarding amendment to NRC License (#13-02128-03).

- Item 1. Training will be provided by personnel from Nucletron and will cover the topics on the enclosed syllabus.

A list of personnel who have been trained will be maintained, and refresher training will be provided on an annual basis.

A list of Nucletron Instructors is enclosed.

- Item 2. Source Exchanges will be done by the Manufacturer.

- Item 3. Operating procedures will assure that on days that the unit will be used a check will be made of:

- A. Interlocks
- B. Verification of source position indicators
- C. Inspection of guide tubes for kinks and other imperfections
- D. Reproducibility of source positioning within catheter within ± 1 mm

- Item 4. Emergency Procedures enclosed.

- Item 5. Leak testing is done by the manufacturer and the source will be on site less than four months, therefore additional leak testing is not required.

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13-02128-03 PNU

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If you have any further questions please contact Berry
Stewart, RSO at (317) 783-8171.

Sincerely,

Michael D. Vollmer

Michael D. Vollmer
Vice President
Professional Services

Enclosures

CUSTOMER TRAINING - MICROSELECTRON-HDR

- I. **Teaching Aids Required:**
 - 1. MicroSelectron-HDR Installed System
 - 2. MicroSelectron-HDR User Manual
 - 3. Note Pads and Pens
 - 4. Applicators & Accessories
 - 5. Source container and Dummy Source
 - 6. GM Counter (Hi Activity) provided by customer
- II. **Introduction to MicroSelectron-HDR**
 - 1. What is remote afterloading (Brachytherapy)
 - a) radiation protection
 - b) treatment control
 - c) short treatment times
 - 2. Applications of MicroSelectron-HDR
 - a) Bronchus
 - b) Interstitial
 - c) Intracavitary
 - d) Intraoperative
 - 3. Demonstration of Applicators and accessories
 - a) Bronchus
 - b) GYN
 - c) Esophagus
 - d) Interstitial
- III. **General Information MicroSelectron-HDR**
 - 1. Specifications
 - a) Source
 - b) Radiation protection
 - c) Power requirements
 - d) Number of channels with optional indexer
 - e) Moving and Handling
 - 2. Equipment Operation
 - a) Explanation of Console
 - b) Explanation of Treatment Unit
 - c) Programming Mode

- d) Treatment mode
 - i) Start
 - ii) Interrupt
 - iii) Emergency Stop
 - iv) alarm and error codes

- e) Demonstration
- f) Student practice

Isotope (¹⁹²Ir) Shipping and Receiving

1. Delivery

- a) Unpacking
- b) Acceptance into Inventory
- c) Calibration Data
- d) Installation by engineers
(Discussion Only)

2. Shipping

- a) Release from Inventory
- b) Packing
- c) Shipping Documents
- d) Measurement of Activity

V. Questions and Answers

Note: This training course is given by Nucletron Corporation engineers and is included in the purchase price of the unit.

Annual re-training is available to all customers as part of the Nucletron Service Agreement.

TELEX: (via WUI) 6502611769

Date: _____

7.4 Qualifications of engineers and training personnel

RADIATION SOURCE LOADING FOR THE MICROSELECTRON-HDR

The personnel listed below have been trained in the installation of the Selectron Remote Afterloading equipment and the loading of the radiation sources into the storage safe of the MicroSelectron-HDR from the transport container.

Person	Years Experience	Experience and Training (Jan 1988)
L. van Zwol	12	Technical Director of Nucletron Engineering B.V. responsible for design of Selectron equipment and quality control. Training in handling radiation sources given by Amersham International in Europe. Also, "Ionizing Radiation" Level B (handling of Encapsulated Radio-Active Sources - IVBS Rotterdam).
R. Hermanus	7	International Service Manager of Nucletron Engineering B.V. responsible for worldwide warranty and service of the 200 Selectron systems. He has installed over 50 systems. Training, "Ionizing Radiation" Level B (handling of Encapsulated Radio Active Sources - IVBS Rotterdam).
M. Cragg	5	Service Manager, Nucletron, U.K. 30 installations of Selectron equipment and servicing in USA, United Kingdom and Canada.
C. Mellink	3	Trained by Nucletron Engineering, B.V. Has carried out installations in USA, Canada, China, Europe.
A.M. Mount	10	Nucletron Corp. Physicist with 5 years background in handling radiation sources for medical and industrial use while working for Amersham in England, + two years experience with Nucletron in England where there are 30 Selectron systems, and two years in North America where there are 35 Selectron systems.

Person	Years Experience	Experience and Training (Jan 1988)
S. T. [redacted]	3	Technical Manager - Nucletron Corporation Radiation Safety Officer
J. Conti	2	Trained by Nucletron Corp. Attended 4 weeks' certified training in Holland on operation, service and safety of the machines and sources.
T. Speck		"
C. Jones		"
H. Archibald		"

NUCLETRON CORPORATION

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By: A.M. Mount

A.M. Mount
President

**EMERGENCY PROCEDURES
FOR HIGH DOSE RATE
MicroSELECTRON-HDR Ir-192**

IF THE SOURCE FAILS TO RETURN TO THE UNIT
(Area radiation monitor flashing, or "treat" light remaining on)

1. Depress the emergency stop button on the wall. The source will retract and the radiation emergency is ended. The printout records the treatment time and also records the estimated treatment time. Notify the physicians and the physicists.
2. IF THE SOURCE HAS NOT RETRACTED --
enter the room, and open the panel on the top of the unit, by pushing it down to release the catch.
3. Turn the GOLD-colored crank in the direction of the arrows. This will pull the source back into the storage and end the radiation emergency. Record the estimated treatment time, and notify the physicians and physicists.
4. IF THE CRANK SHOULD BE JAMMED --
 - a) disconnect the applicator from the unit, and pull the unit away from the patient, which will pull the source cable out of the applicator.
 - b) Quickly slide the source into the lead storage cask. Use the forceps to guide the source cable into the funnel.
 - c) Assist the patient from the room. Close the door, mark it "NO ENTRY", and notify the physicians and physicists.
 - d) Record the estimated treatment time.

Emergency Numbers.....

Physicist: B. Stewart, .44; Home 784-0121

Doctor: E. Sayoc M.D. Home 297-2972

Nucletron: 1-800-333-2249

BIOMED: T. Pegg, Pager#0002; shop 8414; Home 786-4700

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IV. Isotope (^{192}Ir) Shipping and Receiving

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By: A.M. Mount
A.M. Mount
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