

MPI Professional Service Centers

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a subsidiary of Medi-Physics, Inc.

MPI Professional Service Centers Inc.
8312 State Road, Suite 3
Philadelphia, PA 19136

(215) 624-8612

MS-16

K-Ø

December 2, 1988

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406

ATTN: Josephine Piccone, Ph.D.
REF: 109555

Dear Doctor Piccone:

The following information is being submitted on behalf of the Material License application for Lawrence Park Radiologic Center and in response to questions regarding said application.

In response to your first two questions regarding the procedure and written record documentation for "wipe testing", please note the following information:

1. In order to appropriately meet the compliance item as defined in 10 CFR, Part 35.70, this facility has now approved the purchase of, and the order has been placed, for the following equipment to use as the primary instrument to count all wipe tests (to include radioactive packages and room area surveys):
 - a. Scaler/Ratemeter, mfg. Ludlum Meas. Inc., Model # 243
 - b. Shielded Well Detector, same manufacturer, Model # 2200

In the event that this equipment is not available to perform these tests, then the previously described equipment will be used as outlined in my letter dated October 20, 1988 (copy enclosed, see item 1.).

The licensee will follow the manufacturer's instructions for equipment use and recognizes that the parameters must be set to be able to detect contamination on each wipe sample of 2000 disintegrations per minute (dpm).

The licensee also recognizes and commits to recording all wipe tests results in disintegrations per minute per 100 square centimeters.

2. In response to your concern regarding the procedure for Area Surveys and Radioactive Package Check-In, please note that the following step will be incorporated in the previously submitted procedure:

* If, at any time, the established trigger levels are exceeded, the procedure will be stopped and the person performing the procedure, or a designate if necessary, will notify immediately the Radiation Safety Officer and carrier/vendor, if applicable, and prior to initiation of appropriate decontamination procedures.

I hope that this information clarifies and establishes that the proposed licensee has committed to all necessary measures to ensure total compliance with all NRC items of regard. Please do not hesitate to contact me on behalf of Lawrence Park Radiologic Center should you have further questions.

Very truly yours,

Elizabeth A. Joyce
Service Representative

OFFICIAL RECORD COPY ML10

109555
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REG. LIC30
37-28281-01 PNU

DEC 5 1988

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MPI Professional Service Centers Inc.
8312 State Road, Suite 3
Philadelphia, PA 19136

October 20, 1988

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U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406

ATTN: Josephine Piccone, Ph.D.
REF: 109555

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The following information is being submitted on behalf of the Material License application for Lawrence Park Radiologic Center and in response to questions regarding said application

1. Q. - Specify instrument(s) used to count Wipe Tests.
 - A. - Two (2) instruments will be available for this function.
 - a. In-coming radioactive packages: A Ludlum Survey Meter, Model 14-C with a Ludlum Pancake Probe, Model 44-9 will be calibrated in cpm/uCi. (See ATT 1. x 3 pages for equipment specifications)
 - b. Out-going radioactive waste packages and weekly room wipe surveys: The Gamma Camera will be used for this function following the efficiency determination of this instrument with conversion of cpm to uCi or dpm. (See ATT 2. for sample calculations)
2. Q. - Will "back-up" instruments be available for surveys and wipe tests when department's is out for calibration.
 - A. - When the Ludlum model 14-C and associated probes are out for calibration, a loaner energy-independent survey meter will be obtained from the radiopharmacy or from the calibration consultant service. This loaner G-M meter will be used for surveys and the gamma camera will be utilized for counting all wipe tests.
3. Q. - Specify trigger levels for area surveys and removable contamination (wipes).
 - A. - Restricted areas: 0.5mR/hr - Unrestricted areas: 0.1mR/hr
Removable contamination wipes: 2000dpm/100cm²
 (See ATT 3. for Area Survey Procedure)
4. Q. - Describe radioactive waste disposal procedures for items not returned to the radiopharmacy and held for decay-in-storage.
 - A. - Please refer to ATT 4. for Waste Disposal Procedures.
5. Q. - State position on performing Lung Ventilation Imaging procedures.
 - A. - Xenon 133 gas will NOT be used in this facility. Tc 99m labeled DTPA Aerosol studies are not anticipated to be performed at this time, however, if this study is ever to be performed we will use single-use

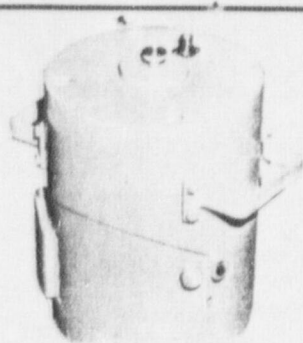
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SPECIAL DETECTORS

12-02-88

REF: 109555

Lawrence Park Radiologic Center



MODEL 180-8; 180-9

SAMPLE HOLDER

INDICATED USE: Low background swipe counter

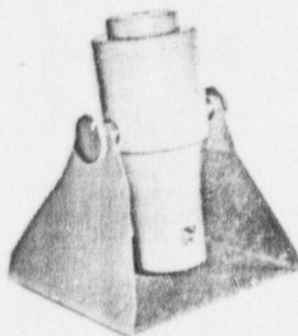
DETECTOR: Model 44-7. (other detectors available upon request)

SIZE: 33.0 (13")H by 24.1 (9.5") diameter, overall width with handles is 31.8 (12.5")

CONSTRUCTION: Lead shielding (1.75" thick), removable cap and hinged door

WEIGHT: 113.6 (250 pounds)

NOTE: 180-9 has an extra 14.6(5.75") in height for scintillation detectors



MODEL 203

SHIELDED WELL SCINTILLATOR

INDICATED USE: Gamma assay

DETECTOR: Integral line 5.1 (2") thick by 4.4 (1.75") diameter NaI (TI)

WELL SIZE: 3.9 (1.55") deep by 1.7 (0.66") diameter

WINDOW: 0.025 (0.010") aluminum

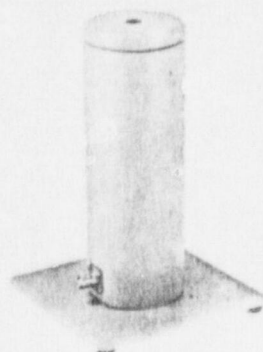
EFFICIENCY: 70% of 4pi for I-125

SIZE: Base — 34.3 (13.5") by 30.5 (12")

Height — with lid 41.9 (16.5")

CONSTRUCTION: 3.8 (1.5") lead wall, removable cap

WEIGHT: 56.8 (125 pounds)



MODEL 243

SHIELDED WELL SCINTILLATOR

INDICATED USE: Gamma assay

DETECTOR: Integral line 5.1 (2") thick by 4.4 (1.75") diameter NaI (TI)

WELL SIZE: 3.9 (1.55") deep by 1.7 (0.66") diameter

WINDOW: 0.025 (0.010") aluminum

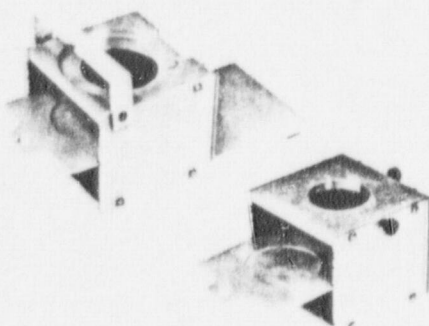
EFFICIENCY: 70% of 4pi I-125

SIZE: Base — 20.3 (8") by 20.3 (8")

Shield — 27.9 (11")H by 8.9 (3.5") diameter

CONSTRUCTION: 1.3 (0.5") lead surrounding detector with 1.3 (0.5") lead cap

WEIGHT: 13.6 (30 pounds)



Model 180-2, Model 180-4

Sample Holder for 44-9, Sample Holder for 44-7

INDICATED USE: Repeatable geometry counting of wipes, filter paper or slides

SAMPLE DRAWER: Slides out for rapid manual sample changing, 47mm diameter depression for sample spacing

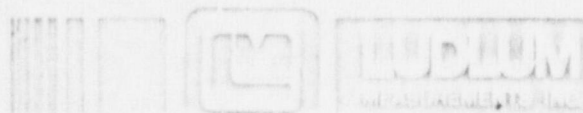
SPACING: Slide slots at 1/4", 1/2", 1", 2", detector spacing is adjustable

SIZE: 6.68 (2 1/4")H by 8.26 (3 1/4")W by 7.62 (3")D

WEIGHT: 180-2, 2.2 (1 pound)

180-4, 1.94 (14 oz.)

CONSTRUCTION: Anodized Aluminum



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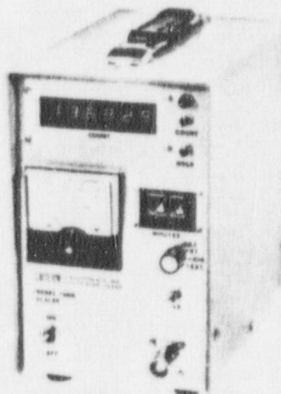
REF: 109555

Lawrence Park Radiologic Center

MODEL 1000

SCALER

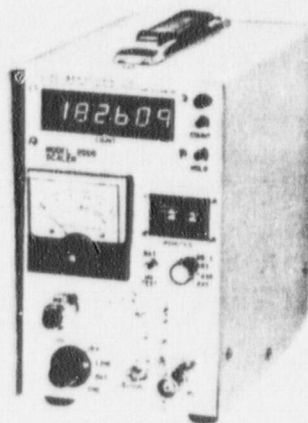
FEATURES: panel meter for HV reading; operates scintillation, or G-M detectors; preset electronic timer;
POWER: 115 volts, 50-60 Hz single phase at less than 100 mA
INPUT SENSITIVITY: 50 mV
HIGH VOLTAGE: Adjustable from 400 - 2500 volts
INPUT CONNECTION: A single series "C" connector with ballast resistor for 1-wire scintillation, or G-M detectors
TIMER: Thumb switch operation from 0-99 minutes with multiples of X0.1, X1, X10, or an EXT position for manual timing.
LINEARITY: Typically $\pm 2\%$ of full scale
SIZE: 12.7(5")W by 21.6(8.5")H by 24.1(9.5")L
WEIGHT: 3.0(6.5 pounds)



MODEL 2000

SCALER

FEATURES: Battery/line power; built in battery charger; panel meter for HV reading, and battery check; operates proportional, scintillation, or G-M detectors; preset electronic timer;
POWER: 115 volts, 50-60 Hz single phase at less than 100 mA, or 4 "D" cell batteries (rechargeable batteries available upon request)
INPUT SENSITIVITY: Voltage sensitive, adjustable from 2 mV to 100 mV
HIGH VOLTAGE: Adjustable from 100 - 2500 volts (will support 100 megohm scintillation loads to 1500 volts)
TIMER: thumb switch operation from 0-99 minutes with multiples of X0.1, X1, X10, or an EXT position for manual timing
LINEARITY: Typically $\pm 2\%$ of full scale
SIZE: 13.3(5.25")W by 21.6(8.5")H by 23.5(9.25")L
WEIGHT: 3.9(8.5 pounds), including batteries

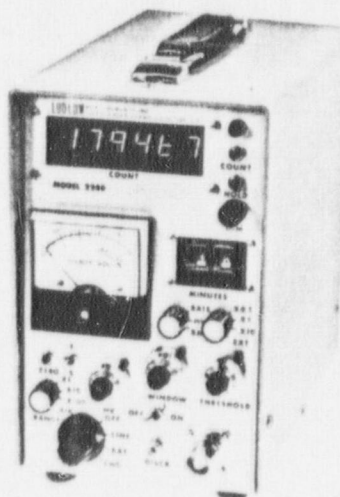


MODEL 2200; 2200-1

SCALER RATEMETER

SINGLE CHANNEL ANALYZER

FEATURES: Battery/line power; built in battery charger; operates scintillation, proportional, or G-M detectors; preset electronic timer; single channel analyzer capability for Gamma spectrum; adjustable threshold, window, and HV; readout dimmer control, panel meter for count, HV, and battery check
POWER: 115 volts, 50-60 Hz single phase at less than 100 mA, or 4 each "D" cell batteries (rechargeable batteries available upon request)
INPUT SENSITIVITY: Voltage sensitive, adjustable from 3mV to 100mV where 1.00 on threshold dial equals 10 mV; Discriminator allows threshold sensitivity to be lowered to 2.0 mV at 1.00 on the threshold dial.
HIGH VOLTAGE: Adjustable from 200 - 2500 volts (will support 100 megohm scintillation loads to 1500 volts)
TIMER: Thumb switch operation from 0-99 minutes with multiples of X0.1, X1, X10, or an EXT position for manual timing
RESPONSE: FAST(3 seconds)
SLOW(12 seconds) for 67% of full scale
LINEARITY: Typically $\pm 2\%$ of full scale
RATEMETER: Four decade count ratemeter from 0-500 CPM with multipliers of X1, X10, X100, X1K
SIZE: 12.7(5")W by 21.6(8.5")H by 21.6(8.5")L
WEIGHT: 4.8(10.6 pounds), including batteries
NOTE: The Model 2200-1 utilizes the same electronics as the Model 2200 except that it is stabilized with, either a light emitting diode(LED), or an Am-241 pulser.



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Telex #466832 UD / 915-235-5494 / or write P.O. Box 810 / 501 Oak / Sweetwater, Texas 79556, U.S.A.

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CONVERSATION RECORD

TIME

DATE

11/23/88

TYPE

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Liz Joyce

ORGANIZATION (Office, dept., bureau, etc.)

Consultant For
Lawrence Park Imaging Ctr.

TELEPHONE NO.

(215)
624-8612

ROUTING

NAME/SYMBOL

INT

SUBJECT

New License Appl. dated 8/31/88 & Ltr. dated 10/20/88

SUMMARY

In the letter dated 10/20/88, a method for counting wipe tests is described with one minute counts.

- In confirming calculations, I determined a LLD of 605 counts for ^{99m}Tc which is greater than specified trigger level of 552 cpm for routine wipes.

(1) ∴ Please confirm that wipes will be counted a minimum of 2 minutes

(2) Also, confirm that RSO will be notified immediately when a trigger level is exceeded

(3) Confirm records in dpm for wipe tests.

ACTION REQUIRED

Response to telephone deficiency

NAME OF PERSON DOCUMENTING CONVERSATION

Piccone

SIGNATURE

Josephine M. Piccone

DATE

11/23/88

ACTION TAKEN

SIGNATURE

TITLE

DATE

CONVERSATION RECORD

TIME

DATE

11/23/88

TYPE

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

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