MD-16
T4

T&R ELECTRIC
SUPPLY COMPANY INCORPORATED
BOX 180, COLMAN, SOUTH DAKOTA 57017
"THE TRANSFORMER PEOPLE"

Call Toll Free 800-843-7994
(In S.D.) 800-952-3953
(Outside U.S.) 605-534-3555
TWX 910-668-0350

Control No. - 460315

December 6, 1985

United States Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011
Attn: Mr. Jack Whitten
Nuclear Materials Safety Section

Dear Mr. Whitten:

This letter is in reference to your letter dated November 27, 1985 requesting additional information for the renewal of by product material license 40-19101-01.

In reference to Item 5 of the checklist enclosed with your letter, T & R Electric Supply Co. uses a commercial leak test kit. This kit is manufactured by Hewlett Packard Co. under the part number 18713-60050.

Referring to Item 6a on the checklist, we use the materials and procedures described in the commercial kit. I have enclosed a copy of those instructions. Concerning Items 6b and 6c, the samples are sent to a commercial lab (Nuclear Radiations Development, Grand Island, NY) for counting.

Finally, in regards to Item 7 on the checklist, T & R Electric Supply Co. follows the manufacturer's instructions for cleaning the detector. A copy of those instructions is enclosed. If additional cleaning is required, the entire cell is returned to the manufacturer for exchange.

If you require any additional information, feel free to contact me.

Sincerely,

Jeffrey D. Jung

Jeffrey D. Jung
Laboratory Director

JDJ:lkn

Enclosures

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3. Marking on Outside of Packaging

No marking required.

ICAO Part 2
Chapter 7, P. 7.5,
sub-P. 7.5.1

Each instrument or article (except radioluminescent timepieces or devices) is marked "Radioactive."

ICAO Part 2,
Chapter 7, P. 7.5,
sub-P. 7.5.3(d)

4. Label

No label required.

ICAO, Part 2,
Chapter 7, P. 7.5,
sub-P. 7.5.1

5. Shipper's Certification for Radioactive Material

ICAO, Part 2,
Chapter 7, P. 7.5,
sub-P. 7.5.1

Shipper's Declaration is *NOT* required.

IATA 24th Edition,
Section 5, P. 5.7,
sub-P. 5.7.28(e)

Cleaning the Detector

WARNING

THERMAL CLEANING IS THE ONLY PROCEDURE PERMITTED UNDER A GENERAL LICENSE. DO NOT INTRODUCE ANY LIQUID SOLVENT INTO THE DETECTOR CELL. THE SOLVENT FLUSH PROCEDURE DESCRIBED IN SOME EDITIONS OF VOLUME 4 OF THE HP 5880 MANUAL MAY NOT BE PERFORMED BY A GENERAL LICENSEE.

THE DETECTOR EFFLUENT MUST BE PROPERLY VENTED DURING THE THERMAL CLEANING PROCESS.

Remove any existing column between the injection port and the ECD. Install an empty (unpacked) glass column. Set the oven temperature to 250°C and the carrier flow to 20-30 ml/min. Raise the ECD temperature to 350°C to thermally clean for several (3-4) hours.

RADIOACTIVITY LEAK TESTS

The ECD detector must be tested for leakage of radioactive material at least every six months. Records of all tests and their results must be maintained for possible inspection by the NRC. More frequent tests may be conducted. Under severe usage conditions, radioactivity leak tests during every column change will provide maximum security.

The procedure used is called the wipe test. A wipe test kit (part number 18713-60050) is supplied with every new ECD. It contains

ITEM	DESCRIPTION	PART NUMBER	QTY
1	Information Card	18713-90040	12
2	Filter Paper #41	3152-0035	12
3	Plastic Bags 4" x 8"	9222-0308	12
4	Envelope (NRD)	05750-80036	4
5	Service Note 5700A-5	5950-3586	1
6	Envelopes (National Leak Test Center	05890-90920	4

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We recommend that disposable plastic or rubber gloves be worn when performing this test. If they are not used, wash your hands thoroughly when you are finished.

C. LEAK (WIPE) TEST KIT 18713-60050

Contains the following:

ITEM	DESCRIPTION	PART NUMBER	QTY.
1	Information Card	18713-90040	12
2	Filter Paper #41	3152-0035	12
3	Plastic Bags 4" x 8"	9222-0308	12
4	Envelope-Wipe Test Kit	05750-80036	4
5	Service Note 5700A-5	5950-3586	1

D. PERFORMING THE LEAK(WIPE) TEST

The test should be performed as follows:

1. Select three information cards (Item 1) and fill out completely.
2. Select three pieces of filter paper (Item 2) and label them with a pencil as follows:

   Sample 1 - Det. Entrance Fitting
   Sample 2 - Det. Housing
   Sample 3 - Det. Exit

3. Disconnect the column from the EC Cell.
4. Wipe the inside and outside of the detector entrance fitting (including column and adapter connections) with the piece of filter paper labelled "Det. Entrance Fitting, Sample 1", see Figure 1-A, B, C and D. Immediately insert it and a filled-out information card into one of the plastic bags (Item 3).
5. Wipe the detector housing (outside case) with the filter paper labelled "Det. Housing, Sample 2", see Figure 2-A, B, C and D, and insert it and filled-out information card into a second plastic pag.
6. Disconnect the exit tube, if removable (tube where vent line is attached), from the detector. Wipe the inside of the metal detector exit tube and/or the inside of the vent line with the filter paper labelled "Det. Exit, Sample 3", see Figure 3-A, B, C and D, and insert it and a filled-out information card into a third plastic bag.

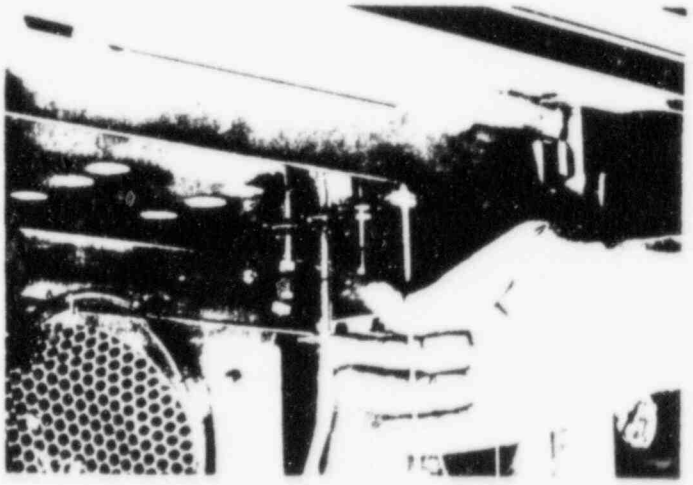
7. Place the three plastic bags into one of the envelopes (Item 4) addressed to Nuclear Radiation Developments Inc., along with your purchase order to cover the cost of the test.

   Nuclear Radiation Developments Inc.
   2937 ALT Blvd.
   Grand Island, NY 14072

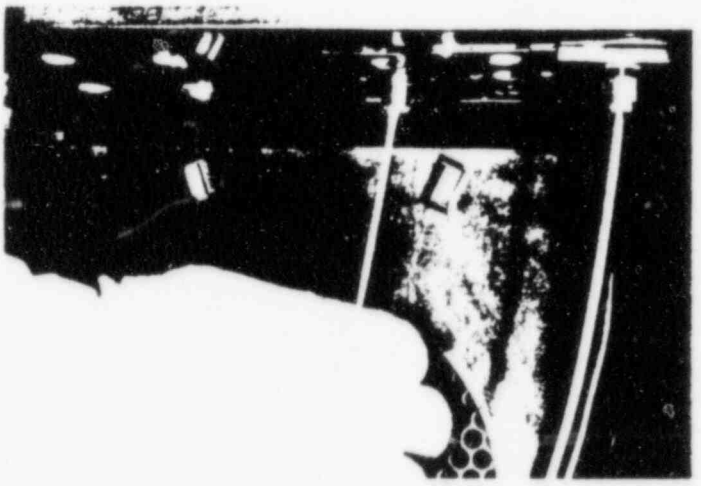
   PHONE: 1-716-773-7634

8. Sufficient material is supplied in each kit to perform four wipe tests. Extra Leakage Test Kits (Part No. 18713-60050) can be purchased from Hewlett-Packard by calling the local HP Sales Office.

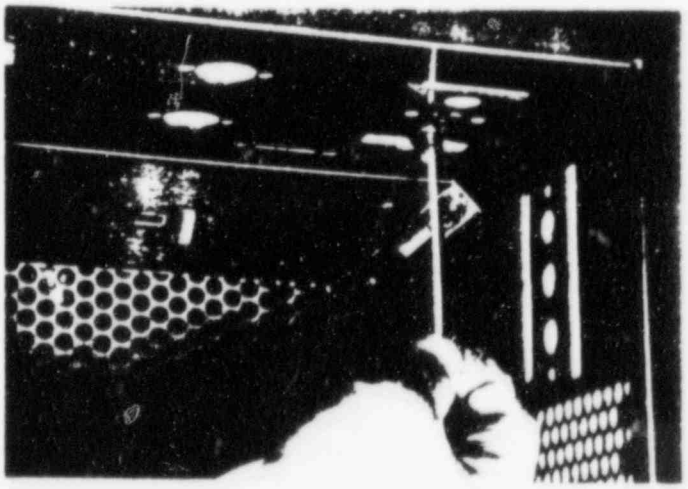
MW/swb



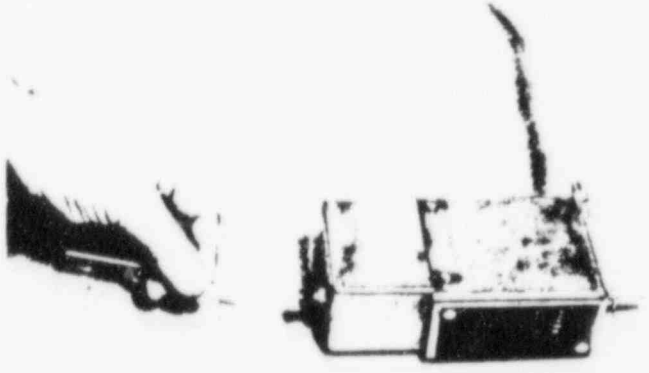
A - 5880



B - 5830/40

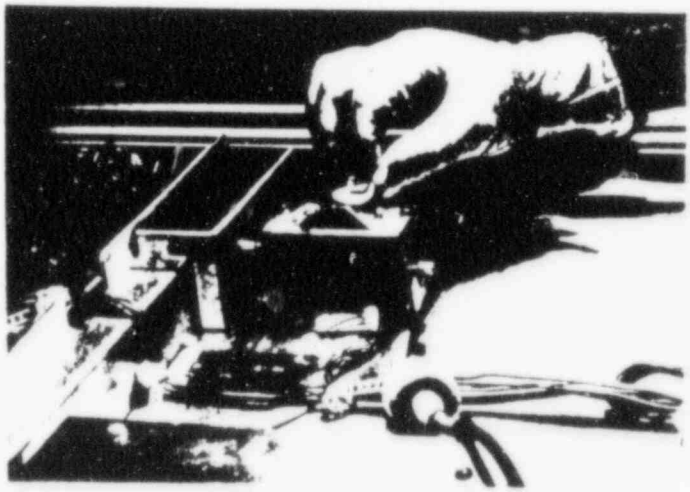


C - 5710/30



D - Older Instruments

FIGURE 1
DETECTOR ENTRANCE FITTING SAMPLE



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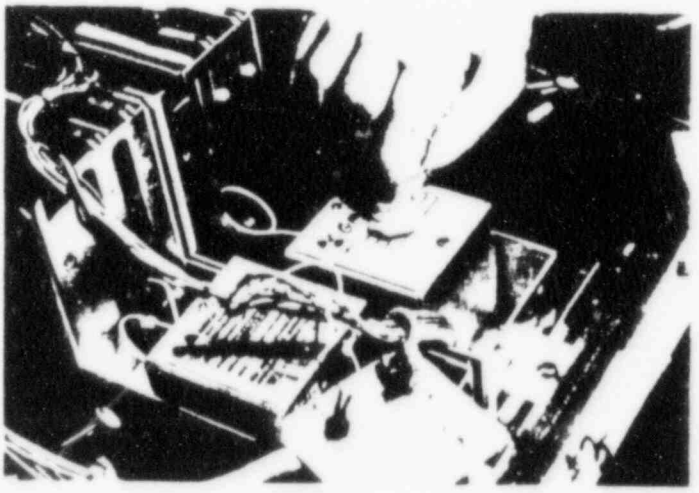
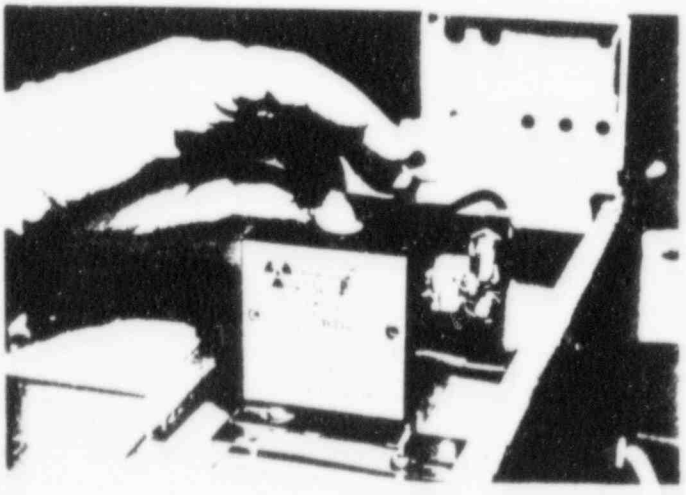


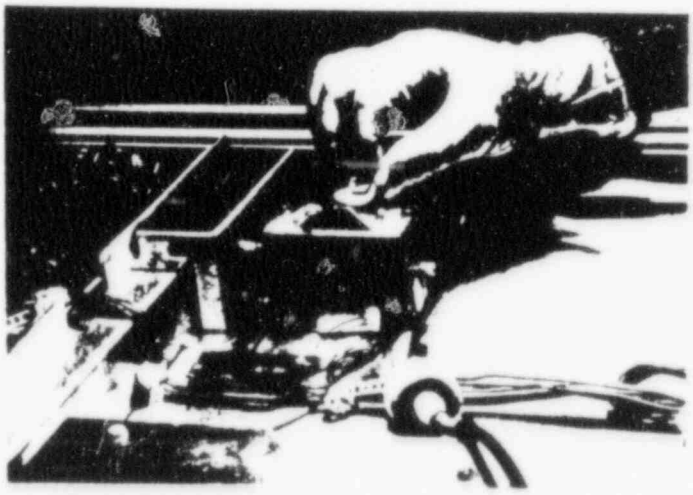
B - 5830/40



C - 5710/50

D - Older Instruments

FIGURE 2
DETECTOR HOUSING SAMPLE



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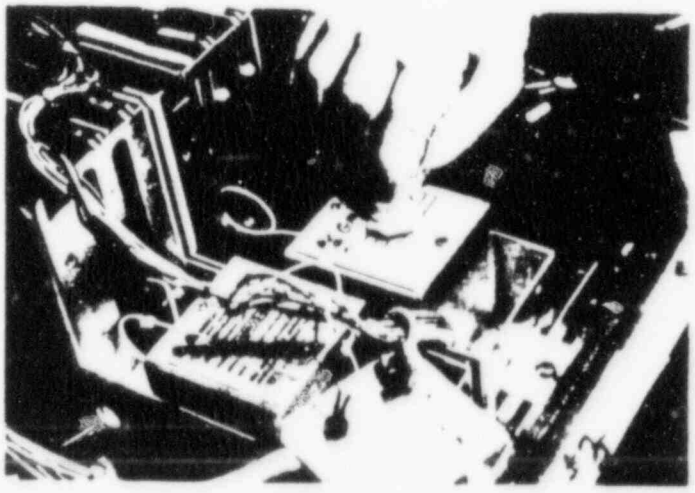
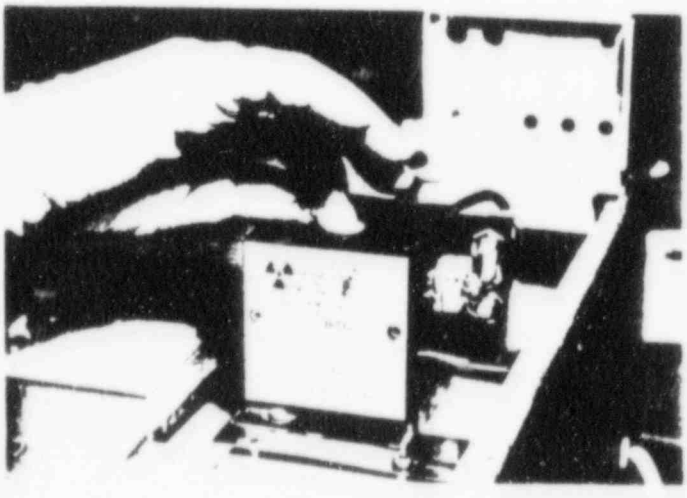
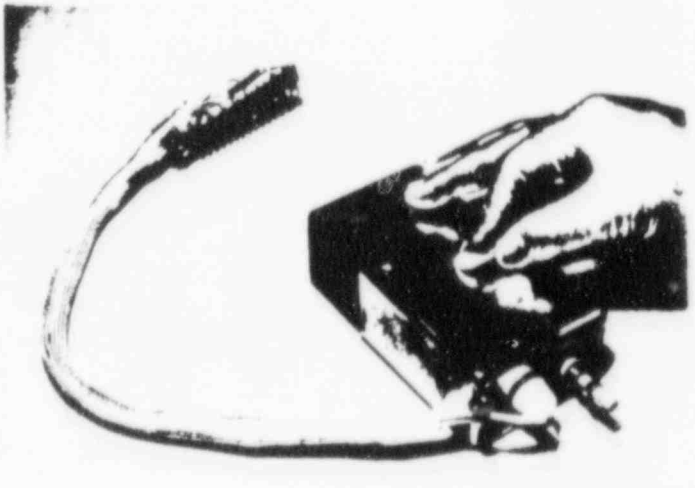


B - 5830/10

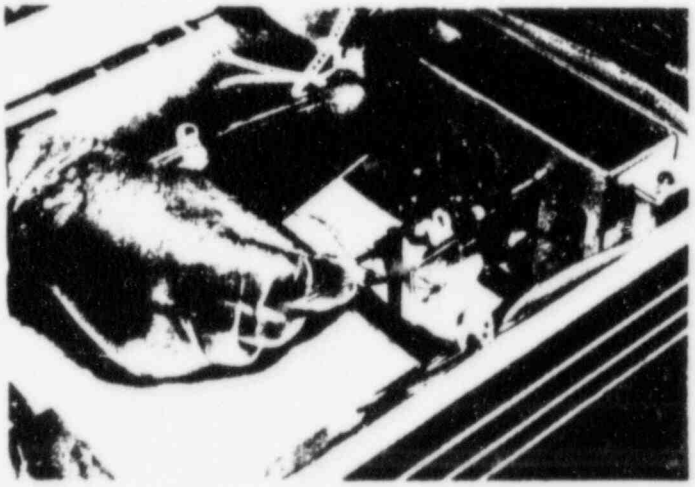


C - 5210/30

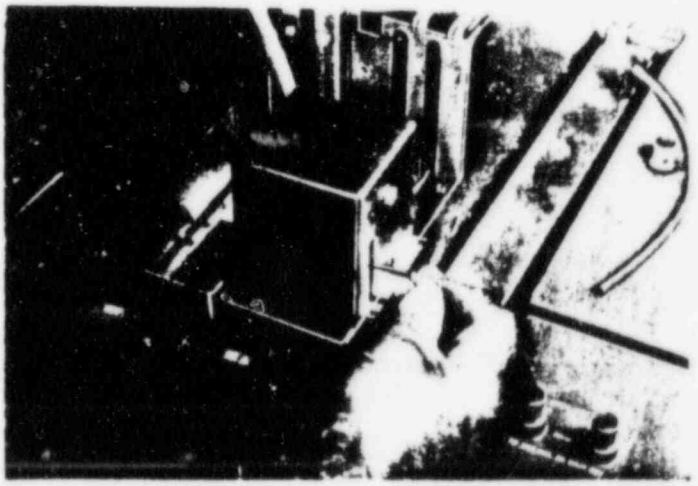


D - Older Instruments

FIGURE 2
DETECTOR BOOSTING SAMPLE



A - 5880



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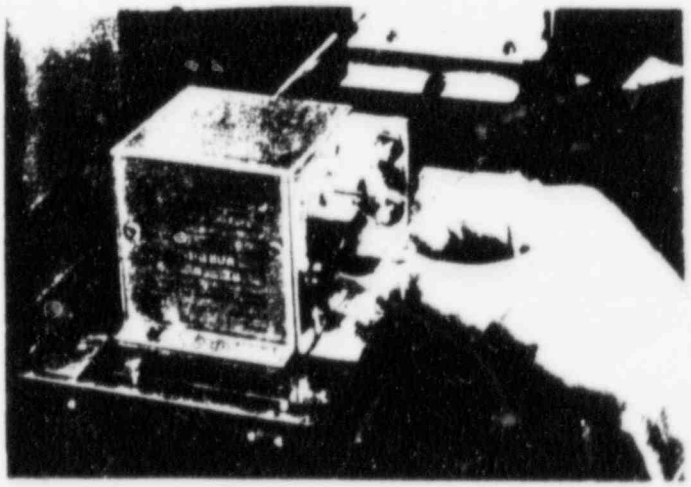

C - 5710/30

D - Older Instruments

FIGURE 3
DETECTOR EXIT SAMPLE