VALMET Automation Control Systems Telecopy

Valmet Automation (USA) Inc.
3100 Medlock Bridge Road
Suite 250
Norcross, GA 30071
Telephone: (404)446-7818
Telecopier:(404)446-8794

TO: Bill Slocumb

CC:

FROM: Robert Couture

NUMBER OF PAGES: 5 including this page

DATE: November 19, 1993

SUBJECT: Tapio Technologies radiation forms

I have talked to Dennis Hughes about licensing at the lower activity and he agrees with me that we would prefer licensing at 200 millicurie.

The attached pages are what was received from TAPIO Technologies.

SÄTEILYTURVAKESKUS
(STUK) Strålsäkerhetscentralen
Finnish Centre for Radiation and Nuclear Safety · Helsinki Finland

15th November 1993 105/322/90

Measurement of the Stray Radiation for the TAPIO Modal BW-2h55 Basis Weight Sensor

The stray radiation of TAPIO basis weight sensor BW-2h55 manufactured by Tapio Technologies Oy was measured. The radiation source in the sensor was a ^{147}Pm source (Amersham product code PCH80952 and serial number BS 263) with nominal activity of 7.4 GBq (12th May 1989).

The detection instrument used for all measurements was a Smart ION ionization chamber survey meter manufactured by MINI INSTRUMENTS Ltd, England. The entrance window of the Smart ION has a nominal density thickness of 7 mg/cm^2 for measurement of superficial dose equivalent H'(0.07) and β dose rate. A sliding window shield (293 mg/cm^2) provides build-up to facilitate measurement of ambient dose equivalent quantity H*(10).

The measurements were performed according to the basis weight sensor radiation test report, see appendix. All measurements were performed with the source exposed through the largest of the three aperture diameters.

The highest stray radiation dose rate at the surface of the sensor measured with the thin window was 18.0 µSv/h at the right side of sensor and at distance of 5 cm 7.0 µSv/h. The highest value measured with build-up cap was 0.2 µSv/h. When the source was in its shielded position the measurement yielded nothing over background. The background radiation measured was 0.2 µSv/h.

Equivalent
1.8 mR/HR
.7 mR/HR

Chief inspector Seppo Vähälä

Appendixes

PL /P.O.BOX 268
SF-00101 HELSINKI
FINLAND

PUH./TEL.
(90) 706 21
+ 358 0 70821

Telefax
(90) 706 2710
+ 358 0 706 2710

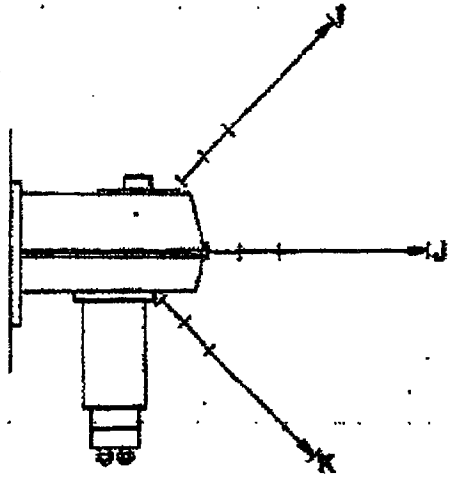
Telex
122681 STUK SF
124356 STUKV SF

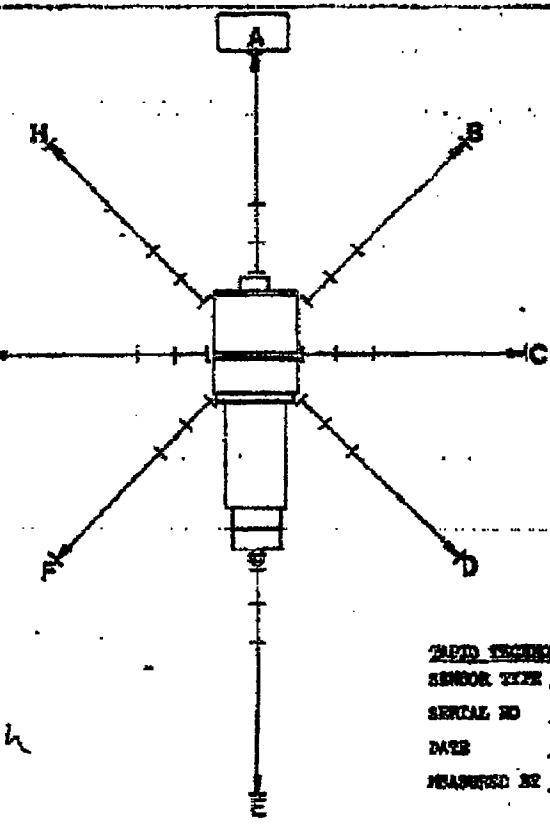
RADIO WEIGHT SENSOR RADIATION TEST REPORT

DISTANCE	DIRECTION A	B	C	D	E	F	G	H	I	J	K
0 cm	–		18.0	1.0	–	1.0	11.0	–	–	0.3	–
5 cm	–	0.3	4.0	–	–	–	6	–	–	–	–
10 cm	–	–	2.0	–	–	–	1	–	–	–	–
30 cm	–	–	–	–	–	–	–	–	–	–	–

µSv/h

Directions A - K are according radiation measurement charts.
Distances are measured from the surface of the sensor to the given direction.





[redacted]

7 mg/cm²

(–) background 0.2 µSv/h

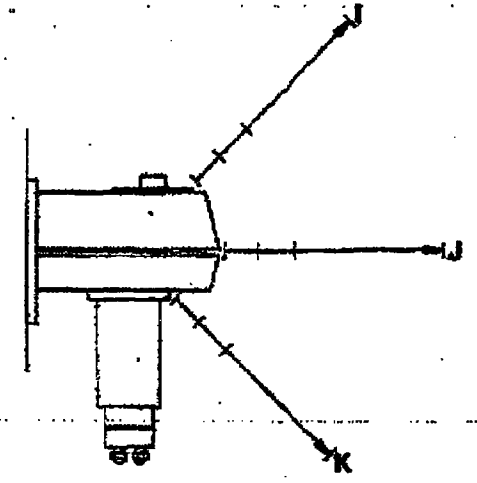
RADIO TECHNOLOGIES OY
SENSOR TYPE : BW - 21,55
SERIAL NO :
DATE : 9.11.1993
MEASURED BY : [signature]

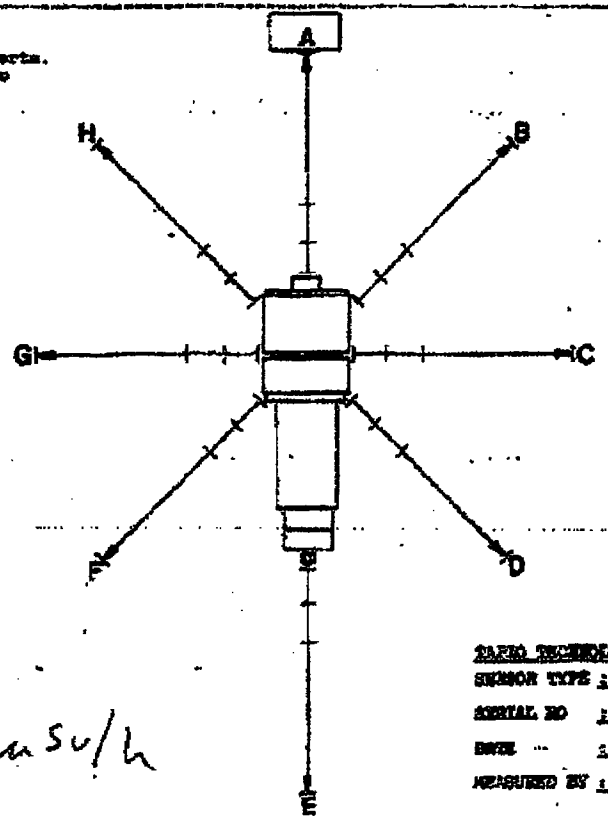
BASIS REMOTE SENSOR RADIATION TEST REPORT

DISTANCE	DIRECTION A	B	C	D	E	F	G	H	I	J	K
0 cm			0,2				0,2				
5 cm											
10 cm											
20 cm											

µSv/h

Directions A - K are according radiation measurement charts. Distances are measured from the surface of the sensor to the given direction.





SÄTEILYTURVAKESKUS
Säteilyturvallisuusosasto
Turvallisuusarvon nro 105/328/90
Tarkastettu 19.11.1993
Tarkastaja SV

RADIO TECHNICAL OY
SENSOR TYPE : BW-2k55
SERIAL NO :
DATE : 9.11.1993
MEASURED BY : Seppo

300 mg/cm²

(–) background 0.2 µSv/h

Appendix 4

Amersham International plc
Amersham Laboratories
White Lion Road Amersham
Buckinghamshire England HP7 9LL

telephone Little Chalfont (0494) 544000
cables Activity Amersham telex
telex 83141 AMTRAN G

Radioactive source test report

product code	description	nominal activity	customer
PHC80952	PROMETHIUM-147 DISC SOURCE	1 7.40 GIGABq 200 MILLICURIE	SOMAR OY P O BOX 5 ESP99 02201 FINLAND
AI item no. R99562	SEALED SOURCE		

BS/ISO classification *	special form certificate no.	recommended working life		customer's order no.
C33222	BOME	5 YEARS	903 1	S-57039 01 SOMAR

serial number	measurement check	measurement check date	leakage test	date passed	leakage test	date passed	contamination test	date passed
83263 Hole					A	12 MAY 89	A	12 MAY 89

2.

notes	signed	date
		26 MAY 89

* this classification complies with BS.5288:1976, which is in agreement with ISO.2919 (see overleaf for definition and description of tests)

Amersham

Liite 3

SÄTEILYTURVAKESKUS
Säteilyturvallisuusosasto
Tarkastettu
Tarkastaja