



April 1, 1992

KIDDE-FENWAL, INC.
400 MAIN STREET
ASHLAND, MA 01721
TEL: (508) 881-2000
FAX: (508) 881-6729

Sterling W. Bell
Sealed Source Safety System
Medical, Academic and
Commercial Use Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Bell:

This is a requested change to our pending amendment of Fenwal's Registration Certificate No. NR-668-D-101E to change the Wipe Test conducted at Nohmi's final (prior to shipment) inspection of Kidde-Fenwal's Model CPD-705-X smoke detector; plus to change Kidde-Fenwal's incoming receiving inspection of Nohmi's smoke detectors. (As received from Nohmi).

Enclosed are the two changes, (Wipe Test and visual for labels). One for Nohmi's outgoing and one for Kidde-Fenwal incoming.

The models that will be listed on the Registration Certificate, as per my fax on 12/13/91 are two series, the Nohmi's manufactured series 705X, and the Kidde-Fenwal, Inc. manufactured series CPD-702X-4X consisting of models 7021, 7023, 7040 and 7044 at the present time. These four models denote minor variations of the same model, such as electronic circuit changes (with UL approval), sensitivity range changes (with UL approval). In all cases, the source and the ION chamber design will not be changed.

The Wipe Test procedure at final inspection will also use the same procedure as enclosed for the Nohmi model.

If you have any questions please contact me.

Sincerely,

R.A. MacNutt
R.A. MacNutt
Quality Manager

CMacNutt
per his phone call - 5/14/92
staying with the ... 702X, 704X,
& 705X series.

cc: K. Bradstreet
J. DiGiovanni
R. Ouimette
D. Reardon
D. Smith

B-517

Kidde-Fenwal, Inc.

Ref. IR101-Section 9

Wipe Test Procedures for Kidde-Fenwal, Inc.
(Incoming shipments from Nohmi Bosai, Ltd.)

Kidde-Fenwal will perform the following incoming tests at Receiving Inspection.

1. a. Determine sample size required from the NRC10CFR Sub Part C - Quality Control Sampling Procedure #32.110. "Table 6 lot tolerance percent defective 5.0 percent. (Except in lot size 2001 to 100,000, the acceptance number is 0. See enclosed copy).

Example: A lot size of 50,000 detectors are received for incoming inspection from Nohmi. Nohmi's test results must be included. The procedure is as follows:

- b. Select sample size from table 6 lot tolerance percent defective 5.0 percent.

Sample size - 75 pieces with an acceptance number of 0.

- c. Check all 75 pieces for proper labels and markings. One failure, missing label or markings, the lot must be screened 100%.

- d. Proceed to step 2.

2. Wipe the entire surface area of 75 detectors using the same filter paper (Whatman #40 or equivalent filter paper) (4.25CM diameter) or wipe three separate lots of 25 detectors each using a separate filter paper for each lot..
3. Determine the background count using the Ludlum Model 2000 scaler or equivalent.
4. Using the Ludlum Model 2000 scaler or equivalent, determine the count of the filter paper (75 detectors) from step 1 or using the same equipment determine the count of each individual filter paper per 25 units for a total of 3 filter papers (75 units total) if second option from step 2 employed..
5. Subtract the background count from the sample wipe count. This is the wipe's actual count.
6. Calculate the total disintegrations/minute (DPM) by dividing the actual count by the efficiency factor. For Americium 241 the efficiency factor is 0.14.

Wipe Test
Page 2

Kidde-Fenwal, Inc.

7. Calculate disintegrations/sq. CM by dividing total disintegrations/minute by the total surface area of the detector (for Model 7051 surface area is 200 sq. CM). For 75 units, the reading is 15,000 sq. CM. For 25 units the reading is 5,000 sq. CM.
8. Any wipe greater than 50DPM/CM² shall be brought to the attention of the QA Manager for Corrective Action.

NOTE: The Nohmi 7051 can be considered to be a cylindrical object. Diameter -3.75" Height -0.75".

$$A = 2\pi D^2 + \pi DH = 30.9 \text{ sq.} = 200 \text{ sq. CM}$$

1. Your immediate action to failures.
Example:
 - a. Reject shipment and notify Nohmi. Place lot in hold area.
2. Correction Action Plan from Nohmi is required, including the following:
 - a. Identification of cause for non-conformance.
 - b. Plan to eliminate cause for non-conformance.
 - c. Time table for completion of Corrective Action Plan.

NOTE: The actual Wipe Test results from Nohmi must be included with each shipment. Failure to supply data will result in the rejection of the lot.

Test results from Nohmi and Kidde-Fenwal must be retained by Kidde-Fenwal for inspection by the NRC on their audits of our Quality System.

Nohmi Bosai, Ltd.

Ref. IR101-Section 9

Wipe Test Procedures for Nohmi Bosai, Ltd.

Manufacturer of the CPD 705X Smoke Detector.

The following sample shall be taken at Final Inspection by Nohmi prior to shipping the product to Kidde-Fenwal, Inc.

1. a. Determine sample size required from the NRC10CFR Sub Part C - Quality Control Sampling Procedure #32.110. "Table 6 lot tolerance percent defective 5.0 percent. (Except in lot size 2001 to 100,000, the acceptance number is 0. See enclosed copy).

Example: A lot size of 50,000 detectors are ready for shipment to Kidde-Fenwal, the procedure is as follows:

- b. Select sample size from table 6 lot tolerance percent defective 5.0 percent.

Sample size - 75 pieces with an acceptance number of 0.

- c. Check all 75 pieces for proper labels and markings. One failure, missing label or markings, the lot must be screened 100%.
- d. Proceed to step 2.
2. Wipe the entire surface area of 75 detectors using the same filter paper (Whatman #40 or equivalent filter paper) (4.25CM diameter) or wipe three separate lots of 25 detectors each using a separate filter paper for each lot.
3. Determine the background count using the Ludlum Model 2000 scaler or equivalent.
4. Using the Ludlum Model 2000 scaler or equivalent, determine the count of the filter paper (75 detectors) from step 1 or using the same equipment determine the count of each individual filter paper per 25 units for a total of 3 filter papers (75 units total) if second option from step 2 employed.
5. Subtract the background count from the sample wipe count. This is the wipe's actual count.
6. Calculate the total disintegrations/minute (DPM) by dividing the actual count by the efficiency factor. For Americium 241 the efficiency factor is 0.14.

Wipe Test
Page 2

Nohmi Bosai, Ltd.

7. Calculate disintegrations/sq. CM by dividing total disintegrations/minute by the total surface area of the detector (for Model 7051 surface area is 200 sq. CM). For 75 units, the reading is 15,000 sq. CM. For 25 units the reading is 5,000 sq. CM.
8. Any wipe greater than 50DPM/CM² shall be brought to the attention of the QA Manager for Corrective Action.

NOTE: The Nohmi 7051 can be considered to be a cylindrical object. Diameter -3.75" Height -0.75".

$$A = 2\pi D^2 + \pi DH = 30.9 \text{ sq.} = 200 \text{ sq. CM}$$

1. Your immediate action to failures.

Example:

- a. Stop shipment and screen the lot 100%.
- b. Check stock (determine in Correction Action Step if stock requires screening).

2. Correction Action Plan, including the following:

- a. Identification of cause for non-conformance.
- b. Plan to eliminate cause for non-conformance.
- c. Time table for completion of Corrective Action Plan.

NOTE: The actual results must be included with each shipment. Failure to supply data will result in the rejection of the lot.

Kidde-Fenwal must also perform the same test upon receiving.

Test results from Nohmi and Kidde-Fenwal must be retained by Kidde-Fenwal for inspection by the NRC on their audits of our Quality System.

10 CFR

APR 3, 1992 8:52AM 8402

§ 92.110

ance Percent Defective. If the number of defectives in the sample does not exceed the acceptance number in the appropriate Sampling Table in this section, the lot shall be accepted. If the number of defectives in the sample exceeds the acceptance number in the appropriate Sampling Table in this section, the entire inspection lot shall be rejected.

(b) Single sampling tables for Lot Tolerance Percent Defective:

(1) Lot Tolerance Percent Defective 0.5 percent:

Lot size	Sample size	Acceptance No.
1 to 100	All	0
101 to 210	100	0
211 to 250	210	0
251 to 300	240	0
301 to 400	270	0
401 to 500	300	0
501 to 600	320	0
601 to 800	350	0
801 to 1,000	365	0
1,001 to 2,000	410	0
2,001 to 3,000	430	0
3,001 to 4,000	440	0
4,001 to 5,000	445	0
5,001 to 7,000	450	0
7,001 to 10,000	455	0
10,001 to 20,000	460	0
20,001 to 50,000	775	1
50,001 to 100,000	780	1

(2) Lot Tolerance Percent Defective 1.0 percent:

Lot size	Sample size	Acceptance No.
1 to 120	All	0
121 to 150	20	0
151 to 200	140	0
201 to 300	165	0
301 to 400	175	0
401 to 500	180	0
501 to 600	190	0
601 to 800	200	0
801 to 1,000	205	0
1,001 to 2,000	220	0
2,001 to 3,000	225	0
3,001 to 5,000	230	0
5,001 to 10,000	230	0
10,001 to 100,000	390	1

(3) Lot Tolerance Percent Defective 2.0 percent:

Lot size	Sample size	Acceptance No.
1 to 75	All	0
76 to 100	70	0

10 CFR Ch. I (1-1-90 Edition)

Lot size	Sample size	Acceptance No.
101 to 200	95	0
201 to 300	95	0
301 to 400	100	0
401 to 600	105	0
601 to 800	110	0
801 to 1,000	115	0
1,001 to 10,000	195	1
10,001 to 100,000	200	1

(4) Lot Tolerance Percent Defective 3.0 percent:

Lot size	Sample size	Acceptance No.
1 to 40	All	0
41 to 55	40	0
56 to 100	55	0
101 to 300	55	0
301 to 500	70	0
501 to 1,000	75	0
1,001 to 100,000	130	1

(5) Lot Tolerance Percent Defective 4.0 percent:

Lot size	Sample size	Acceptance No.
1 to 35	All	0
36 to 50	34	0
51 to 100	44	0
101 to 200	50	0
201 to 300	55	0
301 to 100,000	85	1

(6) Lot Tolerance Percent Defective 5.0 percent:

Lot size	Sample size	Acceptance No.
1 to 30	All	0
31 to 50	30	0
51 to 100	37	0
101 to 200	40	0
201 to 300	42	0
301 to 400	44	0
401 to 2,000	45	0
2,001 to 100,000	75	1

(7) Lot Tolerance Percent Defective 7.0 percent:

Lot size	Sample size	Acceptance No.
1 to 25	All	0
26 to 50	24	0
51 to 100	28	0
101 to 200	30	0
201 to 300	31	0