

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED IN ITS ENTIRETY)

NO: NR-668-D-101-E

DATE: APR 27 1992

PAGE 1 of 3

DEVICE TYPE: Ion Chamber

MODEL: CPD 702X Series, CPD 704X Series and CPD 705X Series (The X in each Series represents a future number to be assigned as new models are developed.)

MANUFACTURER/DISTRIBUTOR:

Kidde - Fenwal, Inc.
400 Main Street
Ashland, MA 01721

MANUFACTURER:

Nohmi Bosai Ltd.
7-3 Kudan Minami, 4-Chome
Chiyoda-bu Tokyo 102, Japan

SOURCE MODEL DESIGNATION:

Amersham Models AMM1001, AMM 1001D, and
AMM 1001 H
Nuclear Radiation Development Models A001,
A100.

ISOTOPE:

Americium-241

MAXIMUM ACTIVITY:

1.5 microcuries

LEAK TEST FREQUENCY: Not required

PRINCIPAL USE: (P) Ion Chamber Smoke Detector

CUSTOM DEVICE:

____ YES

____ X NO

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PAGE 2 of 3

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DESCRIPTION:

The Kidde-Fenwal, Inc. Series CPD 702X and CPD 704X are dual chamber ionization type detectors that are designed to detect incipient fires by responding to the products of combustion produced by thermal decomposition of building materials or contents prior to the appearance of visible smoke, flame or appreciable heat. The smoke detectors are designed primarily for industrial use. Both the CDP 702X and 704X series smoke detectors are identical with the exception of differences in the electronic circuitry. Each foil contains not more than 1.5 microcuries of Americium-241. The foils are contained in a stainless steel source holder and are secured to a source assembly holder by using brass eyelets. The source assembly holder is secured to the stainless steel smoke chamber by means of individual tabs which snap fit into recesses in the smoke chamber. A stainless steel reference chamber serves as the top of the chamber assembly and is secured by tabs which are bent over to engage the source assembly holder. The ionization chamber assembly is attached to the printed circuit board by stainless steel tabs that are pushed through the printed circuit board and bent or twisted to secure the ion chamber. The entire assembly is secured inside a plastic outer cover. In order to gain access to the smoke detector foils it would require the use of special tools and considerable force and effort.

The Kidde-Fenwal CPD 705X series smoke detectors are completely manufactured in Japan by Nohmi Bosa Ltd. The source assembly is the source foil (Amersham AMM 1001) mounted to a 300 series stainless steel plate and is champed by a 300 series stainless steel source cover which has three integrally formed tabs which are mechanically folded over the back of the source plate and source cover. A threaded stud which is part of and located beneath the source plate is then passed through the polycarbonate support plate and the printed circuit board and secured with a washer - lock nut thus forming secondary and tertiary protection above the source assembly.

NB: On all the above named series the "X" denotes variations of a basic model that are minor changes, such as electronic circuit changes, sensitivity range changers. These minor changes will be shown in the series by replacing the "X" by a single digit. ie., CPD 7051, CPD 7052 etc. In the case of the CPD 705X series, the source and ion chamber design will not be changed, and the safety characteristics of all models in the series will be the same as described for the basic model. Also, both series CPD 702X and CPD 704X share the same source and ion chamber design. Kidde-Fenwal created two new series because of the need to maintain certain old model numbers in the market place.

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PAGE 3 of 3

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REFERENCE:

- ° This registry sheet was originally compiled from information contained in License No. 20-15285-02E.
- ° Kidde-Fenwal, Inc.'s letter dated November 27, 1991, with enclosures thereto.
- ° Kidde-Fenwal, Inc.'s letter dated December 13, 1991.
- ° Kidde-Fenwal, Inc.'s letter dated April 1, 1992, with enclosures thereto.

ISSUING AGENCY:

U. S. NUCLEAR REGULATORY COMMISSION

DATE: APR 27 1992

REVIEWER: Stacy W. Bill

DATE: APR 27 1992

CONCURRENCE: John B. [Signature]