Recommendations for ionization chamber smoke detectors for commercial and industrial fire protection systems (1988)

105th Session, Adelaide, June 1988
National Health and Medical Research Council
Appendix XVII

NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL

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Adelaide, June 1988, Appendix XVII

Introduction

Ionization chamber smoke detectors (ICSDs) utilising a radioactive substance as. the source of ionization are used to detect the presence of smoke and hence give early warning of a fire. The following recommendations are intended to ensure that the use of ICSDs incorporating radium-226 and americium-241 in commercial/industrial fire protection systems does not give rise to any unnecessary radiation exposure.

Recommendations

1. These recommendations apply only to ICSDs incorporating radium-226 or more than 37 kBq americium-241.

2. The radioactive material used in the ICSD shall be a sealed source.

3. The location of the sealed source(s) shall be clearly indicated within the ICSD.

4. The following information shall be clearly visible on a permanently fixed label when the cover of the ICSD is removed:

   (a) the statement 'Caution-radioactive material';
   (b) the standard radiation warning (trefoil) symbol;
   (c) the type and activity of the radionuclide present; and
   (d) a statement that, when the device is no longer wanted, it shall be disposed of by returning it to the supplier or the State or Territory health department.

5. Subject to these recommendations, the owner/lessee, occupier, etc. of premises where ICSDs are installed will not be required to hold a licence/registration.

6. After 1 January 1989 no person shall sell or install an ICSD which:

   (a) contains radium-226;
   (b) contains more than 370 kBq americium-241;

   except to replace detectors in an existing system.

7. When a system is installed, with detectors meeting the requirements of clause 6, the old detectors shall be removed and disposed of in an approved manner.

8. Before a building is demolished, detectors not meeting the requirement of clause 6 shall be removed and disposed of in an approved manner.

9. No ICSD shall be sold or installed unless it is of a type approved by the statutory authority.

10. No ICSD shall be sold, stored or installed except by organisations that hold a licence/registration for the purpose. An employee of a licenced person or organisation shall not require a licence.

11. The supplier shall maintain an inventory of the numbers and types of ICSDs received and of the numbers held on the premises.

12. With each ICSD, the supplier shall provide written instructions for the installation and maintenance of the device. These shall include directions for cleaning the device, changing the batteries (if battery operated), disposal when, no longer wanted and a warning against tampering with the source.

13. No ICSD removed from service or radioactive source removed from an ICSD shall be disposed of except in a manner approved by the statutory authority.

Statutory authorities

Where advice or assistance is required from the relevant statutory authority, it may be obtained from the following officers:

1. Australian Capital Territory

Consultant, Radiation Safety
ACT Community and Health Services
GPO Box 825
CANBERRA ACT 2601
Telephone (062) 47 2899
Fax (062) 47 2851

2. New South Wales

Officer-in-Charge
Radiation Health Services
Department of Health
PO Box 163
LIDCOMBE NSW 2141
Telephone (02) 646 0222
Fax (02) 646 0333

3. Northern Territory

Director
Occupational and Environmental
Health Branch
Department of Health and
Community Services
GPO Box 1701
DARWIN NT 5794
Telephone (089) 80 2911
Fax (089) 410560

4. Queensland

Director
Division of Health and Medical Physics
Department of Health
535 Wickham Terrace
BRISBANE QLD 4000
Telephone (07) 224 5611
Fax (07) 839 5847

5. South Australia

Senior Health Physicist
Occupational Health and
Radiation Control Branch
South Australian Health Commission
GPO Box 1313
ADELAIDE SA 5001
Telephone (08) 226 6521
Fax (08) 232 0334

6. Tasmania

Health Physicist
Division of Public Health
Department of Health Services
PO Box 191B
HOBART TAS 7001
Telephone (002) 30 6421

7. Victoria

Chief Radiation Officer
Radiation Safety Section
Health Department Victoria
555 Collins Street
MELBOURNE VIC 3000
Telephone (03) 616 7777
Fax (03) 616 7147

8. Western Australia

The Director
Radiation Health Branch
Health Department of
Western Australia
Verdun Street
NEDLANDS WA 6009
Telephone (09) 389 3724
Fax (09) 381 1423

For after hours emergencies only, the police will provide the appropriate emergency contact number.

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