

# RPS courses



Radiation Protection Supervisors

Programme for users of

## **sealed sources and x-rays**



*Radman Associates*

Specialists in radiological protection

## **RPS COURSES**

- Short Courses at regional centres
- Special advisory courses of 1 or 2 days are held at company premises by arrangement and with programmes designed to particular requirements

*Full particulars may be obtained from:*

### **The Secretary**

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## Radiation Protection Supervisors

Under the Ionising Radiations Regulations 1999 Reg 17(4) the employer must appoint one or more suitable Radiation Protection Supervisors for the purpose of securing regulatory compliance in any area made subject to Local Rules.

In order to assist the employer in achieving optimal radiation safety in the workplace, the RPS must be sufficiently trained in the nature of the risk and their radiation protection duties. Whilst principally designed for the training of RPS's, therefore, these courses are suitable for all staff who have responsibility for or duties concerned with ionising radiations from radioactive sources and X-rays sets.

The course content enables delegates to become conversant with the properties of the radiations and their respective hazards, and with the modern methods of radiation protection management. The course programmes are planned to give a thorough familiarity with the requirements of the Regulations. Changes which have been introduced into new statutory requirements are given prominence and emphasis is given to practical methods of protection with demonstrations and syndicate exercises to involve as much participation of delegates as possible.

Two separate programmes are conducted regularly throughout the year for users of:

- *Laboratory Radiochemicals – for those using unsealed radioactive materials in tracer quantities, with emphasis on contamination control.*
- *Sealed Sources and X-Rays – for those using such radiation sources in industrial process controls or research applications, with emphasis on external radiation exposures.*

An important feature of the courses is their introduction, when members declare the particular radiation sources they are concerned with. The tutors then make sure to include the radiological characteristics and control measures relevant to those sources, and ample opportunity is given for individual discussion.



## **Radiation Protection Supervisors** *(Sealed sources and x-rays)*

### **Course Programme**

#### **Day 1**

13.00 - 13.15

#### **Introduction to Course**

Delegates describe their use of radioactive sources and X-rays.

13.15 - 14.15

#### **Ionising Radiations**

Radioisotopes and their radiations; decay and half-life; units of activity; gamma emitters in process controls; X-rays; properties of the radiations.

14.15 - 14.45

#### **Radiation Dose**

Dose quantities and units; background exposures; benchmarks of dose; dose coefficients; industrial exposure levels.

14.45 - 15.30

#### **Video : 'Background Radiation'**

*Tea*

16.00 - 16.45

#### **Legislation**

The Radioactive Substances Act 1993; the Ionising Radiations Regulations 1999 and ACoP; transport of sample materials; enforcing remits of the Environment Agency and the HSE.

16.45 - 17.15

#### **Principles of Protection**

Time, distance and shielding; the 'inverse square law'; relationship between source activity and dose rate; X-ray diffraction and adventitious X-rays.

17.15 - 18.00

#### **Briefing for evening syndicate work**

Syndicates are given details of typical industrial scale accidents confronting RPS's.

*Dinner*

*Evening*

Delegates detail their proposals and prepare responses for presentation to the group at the end of Day 2.

**End of day 1**



## **Radiation Protection Supervisors (Sealed sources and x-rays)**

### **Course programme (continued)**

#### **Day 2**

08.30 - 08.45

#### **Day 1 review**

08.45 - 09.45

#### **Basis of Setting Dose Limits**

Biological effects; assumptions about human response to irradiation; stochastic and deterministic effects; evidence of radiation damage; dose limits and ALARP.

09.45 - 10.30

#### **Radiation Monitoring**

Selection of appropriate instruments; checks and calibrations; monitoring routines; recording and interpretation of readings.

*Coffee*

11.00 - 11.45

#### **Risk Assessments and Contingency Plans**

Requirements for undertaking prior risk assessment and assessing the risk from accidents.

11.45 - 12.30

#### **Useful Calculations**

Typical problems in half-life decay, relating activity to dose rate and the use of the inverse square law in dose rate reduction.

*Lunch*

13.30 - 14.30

#### **Management of Radiation Work**

Appointed persons and responsibilities; reporting structure; designation of Controlled and Supervised Areas; classification of employees; enclosures; systems of work; leakage tests; safety features and warning devices.

14.30 - 15.00

#### **RPS duties and Local Rules**

A summary of RPS duties and supervision of work using the Local Rules.

15.00 - 15.30

#### **Compliance Inspections by the HSE/EA**

A short questionnaire followed by general discussion concerning inspections by the enforcing authorities.

*Tea*

15.45-16.45

#### **Syndicate Reports**

Short presentations are made by each group outlining their analysis of the problem and course of action.

#### **Close of course**



## **Radiation Protection Advisory Services**

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