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POSITIONING-BASED SOLUTIONS

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PORT ELIZABETH

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Safety and Operation Training - Density Gauges in Civil Engineering

If radioactive isotopes are used in your operations ... are you and your staff competent in handling and maintaining equipment containing the radioactive sources? Do you know how to contain leaks and contamination and to secure, transport and dispose of radioactive sources? Do you know what the Hazardous Substances Act says as to Group IV chemicals and the penalties under the Environmental Protection Acts? If you cannot answer YES to these questions ...

... This is the course for you!

Background

Radioactive isotopes are widely used in measuring equipment such as those which determine soil density and moisture. While these instruments use relatively small amounts of these radioactive isotopes, misuse or damage can lead to serious permanent injury, fatalities or contamination of the environment.

The Department of Health (DoH), through the Hazardous Substances Act of 1973 (amended in 1993), controls and monitors the use of radioactive isotopes in South Africa. Companies and persons found guilty of contravening the provisions of this Act may be fined or otherwise sentenced depending on seriousness of the offence.

Training by Allen Associates

Allen Associates Radiation Safety Proficiency Courses are designed to enhance understanding of sources of ionizing radiation, their application, safe use and procedures in the case of an incident.

Participants are instructed in ionising radiation theory, biological effects and dose limits, methods of protection and the safe use of sources. We teach the responsibilities of Radiation Protection Officers, the rules relating to transport and disposal of radioactive sources as well as procedures to follow in the case of accidental overexposure.

The training uniquely relates safety theory, law, and use of soils and thin-layer gauges, their maintenance and correct operation for standard counts and Proctor and Marshall results, including density and moisture offsets for certain backfill layers and trenches.

The programme satisfies legal requirements and regulations around radiation control in South Africa including the administrative procedures and records required for obtaining, possessing, transporting or disposing of radioactive sources.

Delegates are tested in theory and practice, the Certificate evidencing the competency required for Radiation Protection Officers in terms of Regulation 6 2(b). The Department recently broadened the training ambit to include operators and for assistance to include the preparation of Internal Rules. The status of NQF level courses is traversed.

Who Should Attend

The course is set to benefit all persons involved in the use of nuclear moisture density gauges, including:

- Radiation Protection Officers,
- Acting Radiation Protection Officers,
- SHEQ Officers and Practitioners,
- Civil Engineers with supervisory responsibility, and
- Soils Laboratory technicians

Entry requirements

- Trainees should preferably have prior *Soils Laboratory experience* e.g. understanding of a Mod, Wet and Dry Density, Marshall and Proctor methods.

Course Content

Assistance is offered in preparation of the Internal rules required by law, and content follows the latest International Atomic Energy Agency (IAEA) guidelines to which South Africa as a member state subscribes, including:

- Understanding Radiation,
- Safety and Security of Radioactive Sources,
- The Biological Effects of Radiation,
- Radiation & Pregnancy,
- Radiation Detection and Instrumentation,
- Transportation Requirements,
- Duties & Responsibilities of an RPO,
- South African Legal requirements and regulations,
- Radioactive Waste & Disposal of Radioactive sources,
- What to do in the case of Emergencies, and
- Radiation worldviews following nuclear incidents.

Safety theory is combined with the field operating guidelines of nuclear gauge manufacturers Troxler, Campbell Pacific Nuclear, Instrotek and Humboldt.

Radiation Course Duration

The intensive one-day course includes an assessment test requiring an 85% pass mark for a Certificate of Proficiency. All candidates receive a Certificate of Attendance. Additional field instruction is optional. Besides ionising radiation courses our non-ionising radiation course for Laser safety Officers (LSOs) covers the provisions of the Safe Codes.

The certificate is evidence for the Department of Health of competency training for Radiation Protection Officers in terms of the Codes of Safe Practice. A Company Certificate summarising attendee names is issued for scrutiny by the Inspectorate.

Courses comprise verbal and multimedia presentations and discussion is encouraged. Each delegate receives comprehensive course material on a CD including the legal codes and nuclear gauge user manuals.

Benefits

On achieving proficiency, candidates will be able under the ALARA philosophy to:

- Instruct other personnel in safe radiation working practices and the dangers of over-exposure to radiation;
- Establish and maintain operational procedures so that the radiation exposure of workers is kept as far below the authorised limits as is achievable;
- Initiate an investigation of cases of excessive exposure to determine its cause and ensure that steps are taken to prevent its reoccurrence;
- Determine whether dosimeters are required for personnel use and if so the records to be kept of the results of monitoring devices;
- Ensure adequate records are kept of all sources, the locations of these sources or the name of the person to whom they have been assigned;
- Ensure that periodic radiological surveys are carried out if needed, and the records of such surveys to be kept, including descriptions of corrective measures;
- Ensure all shields, containers and handling equipment are maintained in a satisfactory condition; and
- Ensure periodic leak tests on sealed sources are performed as prescribed.

Course Presenter

David Allen, CEO at Allen Associates, after first-class physics, chemistry and maths, studied law and accountancy at Rhodes University. Articles of Clerkship, Institute of Administration and Commerce of S.A. Management and Accountancy Diploma Branches with further studies in industrial law and administration were followed by a Technikon lectureship for CIS and IAC finalists. Career milestones include support services for nuclear radiation therapy in SA hospitals, industrial systems analysis, safety and preventive maintenance auditing and RPO appointment under the Radiation Directorate. Certification by the NRF iThemba Laboratory for Accelerator-Based Sciences and relations with the Nuclear Energy Corporation of SA (NECSA) support a wealth of experience in Allen civil engineering and construction instrument courses.

Allen Associates, Positioning-based Solutions supply, rent out and maintain surveying and test and measurement instrumentation including GPS and machine control systems. Their cutting-edge expertise is recognized in referrals in SADC countries and beyond.

Be able to confidently handle Radiation Sources in a safe working environment. Register today.

[See Application Form](#)

**Courses cater for any size group
at our offices, on-site, or at
venues across the sub-continent.**

**Price R3750 plus R375 per candidate – excluding VAT
Travelling by quotation.**

For bookings and enquiries:

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