



238 Main Road cc CK 91/2107/4/23 Member: DR Allen t/a

ALLEN ASSOCIATES

POSITIONING-BASED SOLUTIONS

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PORT ELIZABETH

www.allenassociates.co.za

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, address contamination and 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 Management 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 and asphalt and concrete compaction. 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 the seriousness of the offence.

Training by Allen Associates

Our Radiation Safety Proficiency Courses enhance understanding of sources of ionizing radiation, their application, safe use and procedures in the case of an incident.

Candidates 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, and law to the user's own field of use. In soils geotechnology this means the 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 special soils types and narrow 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 has broadened the training ambit to include gauge operators and provision of assistance in 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 Target 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
- RPO Duties & Responsibilities
- South African Legal regulations
- Radioactive Waste & Disposal
- Action in Emergencies
- Storage requirements
- Radiation incidents & worldviews

Safety theory is combined with the field operating guidelines of nuclear gauge manufacturers Troxler, Campbell Pacific Nuclear, Instrotek and Humboldt. Live demonstrations include radiological scans using Geiger counter and EMF meters. Field exercises complete the day.

Radiation Course Duration

The intensive one-day courses include an assessment test requiring an 85% pass for a Proficiency Certificate. Other candidates receive a Certificate of Attendance. A unique benefit is provision for individual supplementary instruction and competency testing.

The certificate is evidence for the Department of Health of competency for Radiation Protection Officers. A Company Certificate summarising attendee names is also issued for scrutiny by the Inspectorate and submission with RN787 Applications for an Authority.

Courses in Nuclear Transport and Mining Safety are offered. Besides ionising radiation courses our non-ionising radiation courses include those for Laser Safety Officers (LSOs).

Our new format PowerPoint multimedia presentations make the material easy to follow. Discussion is encouraged. Each delegate receives handouts and 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:

- Provide safety induction for 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 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 lectureship in the Business Management Department of now NMU. Career milestones include support services in radiotherapy in Eastern Cape provincial hospitals, industrial systems analysis, safety and preventive maintenance auditing and RPO appointment under the SA Radiation Directorate. Certification by the NRF iThemba Laboratory for Accelerator-Based Sciences, relations with the Nuclear Energy Corporation of SA (NECSA) and a Troxler C&DT Certificate support a wealth of experience behind Allen geotechnical and civil engineering instrument courses.

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

Handle Radiation Sources in a safe working environment. Specify the field in which your radioactive sources are applied and register today.

[See Application Form](#)

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

Course price comprises a once-off company fee of R4345 fee plus R435 per candidate – excluding VAT. Travel is by quotation. Cancellations are recognized up to 5 days before scheduled dates. Supplementary tuition is free above a cut-off mark or by quotation.

For bookings and enquiries:

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COURSE REGISTRATION CONTROL FORM v.5-4



Date:	
Attention:	

Course Title:	Ionising Radiation Code of Safe Practice "ALARA" and Practical Radionuclide Applications
Venue, Date and Time	
AV Equipment required:	If not available we supply essential audiovisual equipment by arrangement
Mandatory for:	DoH registered Radiation Protection Officers and Acting Radiation Protection Officers
Recommended for:	Site Radiation Protection Officers, Safety Officers and Soils Technicians
Relevant Documentation:	Hazmat Act 1973 as amended 1993, Group IV Materials and Codes of Safe Practice

Attendee names as they will appear on Certificates	ID Number	Job Title	Email address	Mobile Number

Attendees receive a CD and reference material but should also be equipped to take notes. Each receives a Certificate, a Proficiency Pass requiring 85%. A Company Certificate is issued for the Radiation Inspectorate. Credits for cancellations are not entertained after 5 days before scheduled course dates.

email: admin@allenassociates.co.za website: www.allenassociates.co.za