TRAINING COURSE ON RADIATION SAFETY ASPECTS OF NUCLEONIC GAUGES (NG)

Purpose:
Nucleonic gauges find many non-destructive applications in industry for in situ determination of thickness, density and composition of materials, measurement and control of processed materials in closed containers, analysis of ores and minerals, well logging and in agricultural field for determination of moisture content in the soil etc. It is mandatory for those institutions handling nucleonic gauges, particularly those which are in possession of gamma and neutron sources, to have personnel trained in radiological safety and duly approved by the competent authority. Training course on Radiation Safety Aspects of Nucleonic Gauges (NG) provide necessary training to the sponsored personnel for the said purpose.

Eligibility: The candidate should possess Degree in science or Degree/Diploma in engineering. Sponsored candidates are given preference for admission to the course.

Duration : It is 9 days programme including Saturday and Sunday which contains 18 lectures on different topics related to radiation safety and two practical demonstrations.

Frequency : Training programme are conducted on need-basis. It is normally scheduled when sufficient applications (about 30-35) are received.

Venue : Training programme is conducted normally at Radiological Physics & Advisory Division (RP&AD), Centre for Training & Certification in Radiological Safety (CT & CRS), Anushaktinagar, Mumbai-400 094. Depending upon the availability of facilities and adequate number of participants, this training can be arranged at user institution on request.

TOPICS THAT ARE COVERED DURING THE TRAINING COURSE ON RADIATION SAFETY ASPECTS OF NUCLEONIC GAUGES

Topic
1. Basic Radiation Physics : 1 lecture
2. Interaction of Ionising Radiation with Matter : 1 lecture
3. Radiation Quantities & Units : 1 lecture
4. Principles of Radiation Detection : 2 lectures
5. Radiation Monitoring Instruments & Measurements : 1 lecture
6. Biological Effects of Ionising Radiation : 1 lecture
7. Operational Limits : 1 lecture
8. Radiation Hazard Evaluation & Control : 3 lectures
9. Types of Nucleonic Gauges : 2 lectures
10. Safety Standards for Design of Nucleonic Gauges : 1 lecture
11. Regulatory Aspects of Radiation Safety : 2 lectures
12. Unusual Occurrences in Nucleonic Gauges : 1 lecture
13. Procedure of Trans of Radioactive Sources : 1 lecture
   Group Discussion

Demonstration
1. Nucleonic Gauges & Leakage testing
2. Radiation Monitoring Instruments

Examination: Written examination and viva-voce will be conducted towards the end of the course. To be successful in the training one has to score minimum 50% in written and viva-voce each and 60% in aggregate. In case a candidate could not succeed in first attempt, he/she shall be given two more attempts for reappearing in examination. A gap of minimum three months between the examinations is necessary for re-appearance.
Course fee: Rs.7500/- (Rupees Seven thousand five hundred only) is the amount towards the fee for training course and Service Tax on fee announced in budget @ (14.5%). Each person is to pay a total of Rs 8588/- towards fee and S.T. on or before the time of registration. The sum of fee and service tax is to be paid by crossed Demand Draft drawn in favour of ‘IARP Training Course’, payable at Mumbai.

How to apply for admission to the course:
Candidate has to submit duly filled application form to ‘Course Coordinator, IARP Training Course, C/O RPAD, CT&CRS, Anushaktinagar, Mumbai – 400 094. The format of application may be received from the Course Coordinator on request. Each application should be forwarded by the Head of the institution. While forwarding the application it should ensured that the application is complete in following respects:
1. Attested copies of the certificates in support of educational qualification are enclosed.
2. Application is duly signed and stamped by the sponsoring authority.

Kindly note, that incomplete applications are subjected to be rejected.

Instructions to the Candidate / Sponsoring authority
The participants are selected for training on the conditions listed below. Once the candidate confirms the participation in training, she/he and the sponsoring authorities have to agree and abide by these conditions and rules. The sponsors and/or candidates would be responsible for any violation of these conditions.
1. Duly filled in application form with a copy of self attested qualification certificates.
2. The course fee is non-refundable, if the candidate withdraws from the training or remains unsuccessful in examination.
3. Participants will have to make their own arrangements for lodging and boarding during the entire course period.
4. Participants will have to be physically present during the entire course period compulsorily.
5. The participants are required to abide by the rules and regulations stipulated / prevailing at the course venue. They will be required to display I-card during their movement in and around the training centre.
6. Medical care of a participant will be the sole responsibility of the candidate / sponsoring authority during the entire course.
7. At the end of the course participant would participate in written and viva-voce examination(s) conducted by RP&AD.
8. Wherever possible e-mail ID / contact number of the participant / sponsoring agency may be given for speedy communication.
9. Completed form in all respects must reach IARP office for scrutiny at least 15 days prior to the commencement of the course.
10. Participation of the candidates will be confirmed a week in advance of commencement of the course.
APPLICATION FOR THE TRAINING COURSE ON RADIATION SAFETY ASPECTS OF NUCLEONIC GAUGES

1. Name in full (in block letters): 
   e-mail address: 

2. Date of birth: 

3. Father’s Name: 

4. Permanent address (with PIN code): 

5. Official address (with PIN code): 

Fax No. of Institution: 

5. Educational qualification

<table>
<thead>
<tr>
<th>Degree/Diploma examinations passed</th>
<th>Name of University /Institution</th>
<th>Year</th>
<th>Class &amp; Marks</th>
<th>Subjects</th>
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8. Details of training in radiation safety: 
   (if attended in the past)

9. Personnel monitoring services No., if any:
10. Particulars of nucleonic gauges in use (existing/proposed)

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<tr>
<th>Make &amp; Model Of gauge</th>
<th>Radiation Sources</th>
<th>Activity</th>
<th>No. of Sources</th>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
</table>

11. List of persons already trained in the above course

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<tr>
<th>Name</th>
<th>Year of training</th>
<th>Details of present duties</th>
</tr>
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Certified that above information is correct to the best of my knowledge

Place: __________________________
Date: __________________________ Signature of candidate

Shri/Smt./Kum.________________________ is an employee of this institution. On successful completion of the course, he/she will be provided with all the facilities to carry out his/her duties as Radiological Safety Officer.

Signature of the sponsoring authority

Name, designation & address of sponsoring authority

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Note: 1. Enclose one more copy of the photograph of the candidate with the application.
2. Attested copies of the certificates in support of educational qualification are enclosed.
3. Application is duly signed and stamped by the sponsoring authority.
4. Attach DD drawn in favour of `IARP Training Course’, payable at Mumbai, towards course fee.
5. Incomplete applications in any respect are subjected to be rejected.
6. This application may be posted to: **Course Coordinator, IARP, C/O RP&AD, CT&CRS, Anushaktinagar Mumbai – 400 094.**