

**Responsibilities of Manufacturer/Supplier
(In addition to their responsibilities as Employers)**

Type Approval of Nucleonic Gauge

- 1) The supplier should ensure that he shall not supply a Nucleonic Gauge without obtaining the Type Approval from AERB.
- 2) In order to obtain the type approval of a NG from the Competent Authority, the supplier should submit all relevant particulars in the format prescribed by the Competent Authority in compliance with AERB Safety Standard on 'Design and Construction of Industrial Ionising Radiation Gauging Devices' [AERB/SS/2 (Rev.1)] and any other details that may be required by the Competent Authority to assess compliance with the applicable requirements.
- 3) The supplier should possess documentary evidence to demonstrate that each radioactive source that is incorporated in the NG is designed and manufactured and tested in compliance with the approval certificate issued by the Competent Authority of the country of origin of the design of the source.
- 4) An NG that contains a radioactive source shall not be supplied to any person unless that person has obtained a licence as specified in the Rules, from the Competent Authority to handle the NG.
- 5) The manufacturer's/supplier's facility should furnish the Competent Authority with
 - a. details relating to the supply of NG and sources including the addresses of the licensees and the reference details of the authorisation/NOC issued by the Competent Authority.
 - b. These details should be furnished twice in a year viz. in the first week of January and July.
- 6) The supplier should ensure the safety and security of all sources that are kept stored in his premises and maintain an inventory of the sources in his possession.
- 7) The supplier should maintain complete records relating to design, testing, approval certification, manufacture and supply details relating to the NG.

Typical list of Documents to be submitted for obtaining Type Approval

- a) Design drawings of the radiation source holder, source housing (shielding and material composition of the unit), useful beam controls, useful beam status indicators, interlocks and control circuits)
- b) QA manual for design and manufacture of the device/source.
- c) Manual for installation, operation, servicing, maintenance, dismantling, decommissioning and disposal and emergency procedures
- d) Copy of certificate of type/design approval issued by competent authority of country of origin of design
- e) Special instructions to user on radiation safety in installation and use of gauging devices
- f) Copy of the standard to which device complies with [if other than AERB/SS-2 (Rev. 1)]
- g) Detailed test report with description of each test, the sequence in which the tests are carried out and evaluation of test results
- h) Certificates from the accredited laboratory where tests were carried out, along with signatures of persons witnessing the test and authenticated photographs as evidence to method adopted for carrying out the performance verification test

- i) Letter from the manufacturer/designer authorising the local supplier/ vendor for marketing the unit.
- j) Source retrieval/removal procedures and list of accessories/tools available for retrieval/removal
- k) National/international standards to which the equipment conforms (copy of the standard or its authentic English translation if the standard is in any other language).
- l) List of countries to which such devices were earlier sold.

Supply of Nucleonic Gauge to User.

Prior to the transfer of the NG, the supplier should provide the authorised user of the NG with

- a. copies of Competent Authority approval certificates in respect of the device and the source;
- b. confirmation that the source control mechanism fitted to the NG operates correctly;
- c. confirmation, by measurement, that the radiation pattern in the vicinity of the source container, tube housing or shielded enclosure, conforms to the pattern expected for the design, when a radiation source of maximum design activity is used;
- d. all the relevant information about the safety features of the NG together with operating and maintenance instructions to enable the user to safely and properly operate the NG; and
- e. an undertaking to take back the disused source to its country of origin of the source when the source is no longer required by the user or to make alternate arrangements with the approval of the Competent Authority for the safe disposal of the source, if the original supplier is not prepared to take the source back.
