

Virginia Department of Health Response to Economic Impact Analysis

All users of x-ray machines are required to register with the Department prior to the operation of x-ray equipment in the Commonwealth. The application package for this registration can be found at: <http://www.vdh.virginia.gov/content/uploads/sites/7/2016/10/RH-F-27-PRIVATE-INSPECTOR-APPLICATION-Modified-09-17-2014.pdf>.

Further, each registered facility is required to have an inspection performed prior to any operation of x-ray equipment after a new installation or machine relocation.

Individuals who have been qualified by the Department in accordance with 12VAC5-481-340, Private Inspector Qualifications can perform inspections instead of a Department X-ray Program inspector. Were it not for Private Inspectors, there could be a delay in the timeliness of inspections as there are only seven (7) Department inspectors employed by the Commonwealth, one of whom is the X-ray Program Supervisor. These seven (7) inspectors can accommodate only about 20% of the inspection needs of the Commonwealth, leaving the remaining 80% to the private sector. However, the Private Inspectors must be qualified and certified to perform and submit the inspections, as described in the above referenced regulation, to ensure a positive safety benefit exists for the public.

It is important to note that medical X-rays cause the majority of the average person's exposure to human-made radiation. The National Academies' National Research Council has reported that even low doses of ionizing radiation, such as X-rays, are likely to pose some risk of adverse health effects. State registration and inspection of X-ray equipment is necessary to minimize radiation exposure to the public. The goal and objective of the X-ray program is to ensure that users of X-ray equipment have an effective radiation safety program which reduces the likelihood that individuals receive unnecessary radiation exposure. Effective controls involve the verification of the following by a qualified, certified inspector:

- The X-ray unit performs as designed. This is needed to maintain high quality images and reduce the repeat of X-ray procedures. The result is adequate diagnostic information for appropriate patient care, while minimizing radiation exposure to the patient.
- The training, education and licensing of X-ray equipment operators are evaluated.
- Surveys of radiation levels in and around the X-ray suite are performed to ensure that regulatory limits are not exceeded. Information is collected to evaluate the potential radiation dose to radiation workers (employees) and the public.
- Radiation dose to patients is evaluated so that medical practitioners can provide patients with information about the dose from an X-ray procedure. Comparing this information between facilities can help practitioners and patients evaluate the risk and benefits of an X-ray procedure.
- Radiation safety procedures, concerning a pregnant patient, a pregnant radiation worker, shielding of the patient or staff, and holding or assisting patients, can be evaluated.
- On-site evaluations can help X-ray administrators determine if the cause of poor quality images is due to the performance of the X-ray equipment.