NUCLEAR, BIOLOGICAL AND CHEMICAL DEFENCE (NBC)

PROTECTION AGAINST NUCLEAR WEAPONS

MAHMOUD ABD EL-WAHED EL-AHDAL*

ABSTRACT

Materials are radioactive if their atomic nuclei spontaneously disintegrate with high-energy fragments of this disintegration flying off into the environment. Several kinds of particles can so be emitted, and are collectively referred to as radiation. Some materials decay quickly, making them sources of intense radiation, but their rapid decay rate means that they do not stay radioactive for long periods of time. Other materials serve as a weaker source of radiation because they slowly decay. Slow rates of decay mean, however, that a source may remain dangerous for very long periods.

An effective response to a radiological attack requires a system capable of quickly gauging the extent of the damage, identifying appropriate responders, developing a coherent response plan, and getting the necessary personnel and equipment to the site rapidly. The immediate goal must be to identify the victims that require prompt medical attention and to ensure that all other unauthorized personnel leave the affected area quickly, without panic, and without spreading the radioactive material. All of this requires extensive training.

The ability to protect ourselves is within our reach. There are specific defensive measures that we can take to protect ourselves and minimize the harm from radiation exposure and radioactive fallout.

Aspects of nuclear protection can be accomplished before, during and after a nuclear attack. Soldiers on the battlefield must make defensive preparations to protect themselves. A soldier’s nuclear defense training is extremely important, as is the use of terrain and shelter.

* National Centre for Radiation Research and Technology, Cairo, Egypt