Maryland Department of the Environment

Neutron Products

What You Need to Know

Neutron Products is a nuclear engineering consulting company located in Dickerson, Maryland. The Maryland Department of the Environment's (MDE) Air and Radiation Management Administration (ARMA) inspects and regulates the use of nuclear materials at the site, including Cobalt-60. In April 1999 MDE filed a complaint in Circuit Court against Neutron Products for multiple violations at the Dickerson facility.

Site Location

The Neutron Products facility is located at 22301 Mt Emphraim Road in Dickerson Maryland, Montgomery County. The site is a 3 acre parcel zoned for industrial use. The land use surrounding the site is low density residential. Forested land is located to the east of the site. The geographic coordinates for the site are 39.22057° North latitude by 077.41959° West longitude.

Site History

Operations began at the Neutron Products Site (MDN000305785) in Dickerson, MD in 1967. Radioactive material Cobalt-60 is fabricated at the facility for commercial and medical use. In the mid-1980's Neutron Products established its own radiological waste recycling system. The procedures implemented however, did not comply with Code of Maryland Regulations (COMAR), The only hazardous waste reportedly present at the facility is lead, which is a "mixed waste" of radioactive waste encapsulated in polyethylene tubes along with lead ballast. Contamination at the site consisted of improper storage and disposal of radiological and hazardous waste. In the late 1990's ARMA negotiated with the owner on the construction of a storage building with better shielding for the temporary storage of dry radiation waste.

Environmental Investigation & Action

In April 1999 a complaint was filed in the Circuit Court of Montgomery County on behalf of the MDE against Neutron Products Inc for failing to provide financial assurance sufficient to decommission its licensed facility. The facility uses Cobalt-60 to manufacture sealed radioactive sources.

The Department alleged that Neutron failed to provide financial assurance by the regulatory deadline of October 15, 1998, as required by Maryland statute and regulation. The intent of the statute and regulation is that radioactive material licensees not be permitted to operate unless they can demonstrate they have sufficient financial resources to clean up their facilities should they close for any reason. Because such assurance was not in place by the October 1998 deadline, Neutron had 180 days to shut down its facility and provide an adequate plan of

decommissioning before it lost its right to possess, store, use or ship the licensed radioactive material.

Neutron needed a total of $900,000 to financially assure its licenses. With regard to two of the licenses relating to the use of sealed sources or radiation and requiring only $150,000 in financial assurance, Neutron has indicated a source of funds for these licenses. However, with regard to the major license at the site, the manufacturing license requiring $750,000, Neutron has indicated that the company does not have the funds. Despite repeated requests, Neutron could not identify a potential source for such funds.

In order to protect the community from the accumulation of more radioactive material and radioactive waste at the site, reduce future costs associated with cleanup and to provide a framework for the orderly shutdown of the facility, MDE asked the Court, among other things, to prohibit the receipt of any additional radioactive material at the facility; prohibit the removal of radioactive material from the Limited Access Area of the facility; and prohibit any Cobalt-60 manufacturing activity at the facility.

In the April 1999 court hearing, and subsequent appeal in January 2006, Neutron Products was found to have committed approximately 3,600 violations of license conditions and regulations, for which MDE imposed a penalty totaling $40,700.

Current Status

MDE does not believe that further investigation is needed for this property by the Land Restoration Program. The use of radioactive materials at the site will continue to be monitored and regulated by MDE's ARMA.