Facts About...

Rt.7 Dump/New Jersey Fireworks (MD-075)
State Master List

Site Location

The New Jersey Fireworks (NJF) site is located approximately 2.4 miles west of Elkton and 2.5 miles east of the town of North East in Cecil County, Maryland. The site consists of the 1-acre former Rt. 7 Dump and the 0.5-acre sparkler building area on the former NJF site located at 1726 E. Old Philadelphia Road. The former NJF sites are situated on three parcels that comprise approximately 63.7 acres and are situated in a rural area just north of the Elk Neck State Forest. Old Philadelphia Road (Route 7) forms the northern border of the site. The Forest View Village Trailer Park borders the site to the east. Mill Creek and Amtrak railroad tracks form the southern border of the site. Residences are situated to the north and a septic tank cleaning business in situated to the west.

Site History

In the early 1900s, the far western 2 acres of the site was utilized as a clay quarry that supplied clay to a brick manufacturer. During World War II, by-products of munitions production, as well as scrap rubber from the Bayshore Rubber Plant, were disposed of at that site.

In 1956, the NJF Company purchased the above 2 acres and the adjacent 56 acres east of the disposal area. The Company used the eastern portion of the site for the manufacture of Class C fireworks and the far western portion (Rt. 7 Chemical Dump) for waste disposal from the production of the fireworks. The dump site was never permitted. The disposal area consisted of a burn pad and a water-filled pit that was used to dispose of ash material. By 1980, wastes were burned at the dump, and the ash was transported to the county landfill.

Between 1983 and 1986, the State Highway Administration used the on-site pond at the dump to dispose of fill dirt from road construction. Most of the fill dirt consisted of clays.

With the cessation of manufacturing in 1993, the storage and production buildings were left abandoned. Raw materials such as black powder, oxidizers, fuels, binders and other components remained in opened and/or damaged containers and left in piles on countertops, trays and scattered about on the floors in the dilapidated buildings and trailers.

On June 30, 1999, both parcels (parcel 20 and 165) that comprise the 58-acre NJF site were transferred to Sun and Star, LLC. Later that same year, extensive cleanup of the property was initiated. The dilapidated buildings, trailers and hazardous materials were removed from the site and a new office building and an approximate 28,000 square foot warehouse were erected. From 1993 through sometime in 2005, operations on site consisted of importing, repackaging and distribution of “Class C” fireworks.

On March 25, 2005, both parcels that comprise the NJF site were transferred to the BPLLC Company. Currently the site is leased to A.L.C. Inc., a stump and brush recycling facility operating under Natural Wood Waste Permit 2006 NWWP-GP01 issued April 18, 2006.

Environmental Investigations

On November 17, 1971, a Maryland Water Resources Administration (WRA) official discovered that NJF was discharging wastewater, which contained barium salts, from its sparkler mixing area to an unnamed tributary of Mill Creek. As a result, on December 22, 1971, the WRA issued an order for New Jersey Fireworks to stop discharging to the creek and arrive at an approved treatment and disposal method, which would prevent discharge to the creek exceeding 1 mg/l barium.

According to the Maryland Department of the Environment (MDE) file records, in 1978 NJF was cited by WRA for unpermitted disposal of their fireworks waste into the water-filled quarry located on the extreme western portion of the property now known as the Rt. 7 Chemical Dump. In addition to potential groundwater impact, another concern of the State was that some water from the quarry was escaping into the stream. Sampling by the State around that time indicated that elevated levels of barium were detected in the quarry/pond. Due to the State's concerns, there is some indication in the files that plant personnel had begun removing some waste from the quarry, burning it at the adjacent burning area, and taking the ash to the County Landfill; however, later documents suggest that the improper disposal into the quarry continued. In November 1980, an Administrative Order was issued to the company by the Department of Health and Mental Hygiene (DHMH). The Order required that New Jersey Fireworks close out the dump area in order to protect human health and the environment.

The State of Maryland conducted a Preliminary Assessment and Ecology & Environment conducted a sampling of the Rt. 7 Chemical Dump in 1980, at which time results indicated contamination of the on-site ponded area. No other details were given other than the contamination had not migrated off-site.

In December 1983, the EPA (NUS Halliburton) conducted a Site Inspection of the Rt. 7 Chemical Dump that included collecting samples from on-site surface waters and an adjacent stream. Lead detected in upstream and downstream aqueous samples was determined to be unrelated to the site. Only butyl benzyl phthalate (15 parts per billion [ppb]) was detected in aqueous samples, and it was determined to pose no evident hazard. A high concentration of barium (19,300 ppb) was detected in the on-site pond aqueous sample, but no barium was detected off-site. Trace amounts of cadmium, cobalt, and chromium were also detected.

In June 1992, the MDE submitted a Level I Hazard Ranking System score on the dump site to EPA, and reported that NJF still owned the site, and confirmed that the State Highway Administration disposed of fill dirt from road construction in the on-site pond from 1983 to 1986. MDE recommended considering the site for No Further Remedial Action Planned (NFRAP) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

In September 1992, MDE submitted to EPA a revised Level I Site Investigation Prioritization on the Rt. 7 Chemical Dump, which recommended a NFRAP status for the site, based on existing analytical data.

In 1999, the NJF site (the eastern portion of the property) was inspected by the Federal Bureau of Alcohol, Tobacco, and Firearms (ATF) and the MDE. The inspection revealed that large amounts of fireworks were being stored in an unsafe manner. According to representatives of the ATF, the on-site manufacturing of fireworks ceased in approximately 1991. The types of fireworks previously manufactured include sparklers and black powder explosives. At the time of the ATF/MDE inspection, the property was being used to repackage imported fireworks.

The 1999 ATF/MDE inspection also revealed that several buildings on site contained old fireworks. Many of these buildings were in poor condition. Several pit-like depressions were located in a wooded area and were previously used for burning and disposal of old fireworks. Rusted 30-gallon and 50-gallon drums littered the site. Some of the drums still possessed legible labels indicating that they contained potassium perchlorate. Lastly, a waste disposal area was observed on the south side of the property, which consisted of wooden pallets, drums, aerosol cans, oil containers, auto parts, cinders and other scattered debris, some of which looked like asbestos containing material.

The MDE conducted a Site Investigation focused on the NJF portion of the property in April 2000. Surface and subsurface soil, groundwater, surface water and sediment samples were collected and analyzed for a full scan of all Target Analyte List and Target Compound List pollutants. Results of the chemical analyses revealed only metals at levels above benchmark levels. Analysis of select samples failed to reveal the presence of perchlorates. The toxicological evaluation revealed unacceptable risk from ingestion of surface soil and groundwater, and dermal contact with groundwater beneath the site due to metals contamination.

In October 2001, MDE met with NJF representatives and it was determined that MDE would collect soil samples to further characterize the burn pit area and areas near the many dilapidated buildings and trailers that still contained potentially hazardous wastes. Results from the field screening conducted on December 21, 2001 revealed elevated levels of antimony at the entrance of two of the buildings.

On March 1, 2002, MDE collected additional field screening samples approximately 10 to 20 feet from the building entrances to determine if metals contamination was restricted to those areas nearest the building entrances. An area devoid of vegetation near the former sparkler manufacturing building was sampled and elevated levels of barium (35,400 parts per million [ppm] and 39,300 ppm) were detected.

In August 2004, MDE conducted an Expanded Site Inspection (ESI) of the former Rt. 7 Dump and NJF site in response to the recent discovery of perchlorate contamination in nearby wells. Results of the investigation identified low level perchlorate contamination in the surface soil near the former Rt. 7 Dump area. Elevated levels of perchlorate contamination were identified in the NJF production well, the soil and groundwater near the sparkler building and in a monitoring well approximately 1,000 feet east of the sparkler building area (along the likely easterly/southeasterly direction of groundwater flow). Perchlorate contamination was also identified in the surface water and sediment samples collected in an unnamed tributary of Mill Creek near the sparkler building area. Additionally, the soil sampling identified elevated levels of metals (arsenic, barium, lead, and mercury) above MDE and/or EPA standards, especially near the sparkler building (barium at 47,600 ppm).

A Toxicological Evaluation of the chemical analyses from the samples collected during the ESI identified unacceptable risk due to the contamination that was detected on site from one or more of the following: ingestion of, and dermal contact with the soil and groundwater due to barium, chromium, arsenic and/or potential additive effects. Based upon the potential unacceptable level of risk from exposure to the contamination that was detected on site, MDE recommended further investigation to better characterize the sparkler building area for remedial actions.

On May 25, 2005, MDE issued a letter to the property owner requiring that a Remedial Investigation/Feasibility Study be conducted to fully investigate the contamination discovered at the sparkler building in order to develop a remediation plan to fully address the release into the environment identified in the MDE 2004 ESI.

In early March 2006, the current lessee of the former New Jersey Fireworks property reported to MDE that a citizen was operating a hand held metal detector in the northeastern portion of the site and discovered what was thought to be pins used in World War II era grenades. The identification of these parts was never confirmed and they have since been discarded.

On October 11, 2006, MEC was discovered after disturbance of the ground surface on the property's septic field. Shortly after positive identification of MEC, the Maryland State Fire Marshall's Office personnel conducted an emergency detonation of ten of the fuses on site that same day. The remaining fuses were detonated on site October 13, 2006.

In February 2007 MDE conducted an ESI in response to potential MEC discovered on site in March 2006. Results of that limited investigation identified MEC in each of the three areas investigated. All of the MEC encountered were at or very near the ground surface and were determined to not contain energized material. The MEC items identified are consistent with the historical operations at the NJF facility in that the MEC discovered onsite used black powder and/or colored pyrotechnics rather than high explosive material.

Current Status

Because MEC is present on site and was found in all three areas of this limited investigation, further characterization of these MEC areas and additional investigation of the NJF facility for other potential areas where MEC may be present is required. MDE recommends that this investigation take place as soon as possible as additional black powder, partially assembled pyrotechnics containing black powder, flammables, combustibles, reactives and other shock sensitive materials may still be undiscovered. Any additional subsurface investigations or utility work on this site will have to address MEC issues prior to commencement of any work.

Since the property owner has not demonstrated capability in addressing the environmental concerns at this site, EPA and its contractor, Tetra Tech, will begin implementation of a Work Plan that will assess current site conditions and further delineate perchlorate and MEC contamination sources (i.e. sparkler building and burn pits).

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Last Update: May 21, 2007