

Region 3 GPRA Baseline RCRA Corrective Action Facility

ITT Industries - Night Vision Division

7669 Enon Drive
Roanoke, VA 24019
Congressional District 6
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Current Progress at Site

In 1992, trichloroethylene (TCE) was discovered in a supply well located south of the facility at the Tinker View Trailer Park. Upon notification of this discovery, ITT Night Vision immediately connected residents and businesses in the affected area to the county water system. Field investigations began at once, and ITT Night Vision completed a Phase I study prior to the signing of a RCRA Corrective Action Administrative Order on Consent with EPA in 1994. ITT subsequently completed several additional investigative phases, and in January 2000 EPA approved ITT Night Vision's RCRA Facility Investigation (RFI). The investigation determined that groundwater is the primary affected media. The groundwater is contaminated with volatile organic compounds and the groundwater contamination emanates from three subsurface source areas.



During the RFI, it appeared to ITT Night Vision that contaminants were naturally degrading to some extent through biological processes. Consequently, prior to completing the RFI, ITT Night Vision chose to pilot test an enhanced bioremediation system at Building 3, one of the source areas, as an interim measure. In this method, air, gaseous nutrients and methane are injected via wells in order to stimulate the growth of indigenous bacteria to degrade the contaminants. In 1998, Superfund's Innovative Technology Evaluation (SITE) Demonstration Program accepted ITT Night Vision's implementation of this interim measure activity into their program. The SITE's program's goal is to communicate successful innovative technologies, thereby enhancing remedial options and reducing costs at other sites in the future. The SITE program conducted extensive groundwater monitoring in the pilot test area to develop statistical verification of the efficiency of this technology. The results were very favorable.

In June of 2000, ITT Night Vision submitted a Corrective Measures Study (CMS) to EPA. ITT

Night Vision aims to clean up groundwater to drinking water standards by actively addressing the source areas and by relying on natural attenuation for the more dilute portions of the plume. As part of the CMS, ITT Night Vision began operating bioremediation systems at two source areas located near Building No. 1 and continued to operate the system at Building No. 3.

The bioremediation injection system for the chlorinated hydrocarbon source near Building No. 1 was expanded in 2004 to allow for additional injection of bioremediation amendments within these source areas. In 2005, ITT Night Vision pilot tested the injection of sodium lactate at a well located within one of the source areas near Building No. 1. Based on the favorable results, this project has been expanded. The other source area near Building 1 is referred to as the acetone and isopropanol source area. This area was being addressed through a cometabolic bioremediation injection system. That effort was later replaced by a vacuum extraction system which focused treatment in the low transmissive zones encountered at shallower depths.

In 2005, ITT Night Vision conducted soil sampling in preparation for an expansion of Building No. 2. Soil samples collected in the area detected TCE. Based on these results, ITT Night Vision expanded the soil characterization to determine the extent of contamination and excavated contaminated soil. In 2006, ITT Night Vision installed and sampled wells in this area, and performed an extended vacuum extraction test to address the impacted soil located in the overburden. ITT Night Vision operated this extended test for several months and observed a decrease in the VOC concentrations in the extracted air and the vacuum extraction system was subsequently suspended. ITT Night Vision is currently monitoring the effectiveness of sodium lactate injections for VOC removal from groundwater at this location

The Building No. 3 Area has seen significant reduction in groundwater contaminants, therefore in November 2005, ITT Night Vision ceased operation of the system in this area to assess the effects of rebound. The VOC concentrations in groundwater have been significantly reduced with only limited rebound in one well. Due to the positive outcomes from the sodium lactate injections, in February, 2007, ITT Night Vision opted to perform a limited sodium lactate injection pilot test within the Building 3 area. Through regular monitoring efforts, ITT Night Vision continues to track and optimize performance of all the remediation systems.

Site Description

ITT Night Vision, a division of ITT Industries Inc., is an active manufacturing complex. Operations have been ongoing since 1958. Currently ITT Night Vision employs approximately 1400 employees. The facility consists of three major buildings and associated infrastructure located on two parcels of land in Roanoke, Virginia. EPA issued the facility two EPA identification numbers because the parcels are not contiguous. This parcel of the facility is circled in the picture and covers about 5 acres.

Site Responsibility

RCRA Corrective Action activities at this facility are being conducted under an EPA Region 3 Section 3008(h) Corrective Action Consent Order.

Contaminants

Volatile organic compounds (VOCs) are the primary contaminants of concern. Those found include: acetone, isopropanol, trichloroethylene (TCE) and its breakdown products, and 1, 1, 1 trichloroethane (TCA), and its breakdown products.

Community Interaction

EPA and ITT Night Vision held an informational meeting on November 29, 2000 to update the public on the status of the project. Citizens attending the meeting were satisfied with the work completed and the planned activities; and the meeting received a positive write-up in the Roanoke Times.

In October 2002, EPA approved an updated Community Relations Plan. This Plan describes ITT Night Vision's ongoing strategy to inform the public about Corrective Action and to verify that there is no exposure to contaminated groundwater while ITT Night Vision continues to clean up the plume.

Institutional Controls

ITT Night Vision collaborated with the Roanoke County and Alleghany Regional Health Department officials to establish a moratorium on the drilling of any new water wells in the affected area of the community. However, four wells remain within the affected area. To ensure that these wells are not used for drinking purposes the Consent Order requires ITT Night Vision to evaluate usage of these wells twice a year and to monitor new construction areas. In addition ITT Night Vision is required to annually contact the Health Department to monitor the status of the moratorium. ITT Night Vision reports the results of these evaluations to EPA and the Commonwealth of Virginia.

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