

## FACTSHEET

PROPOSED REVISED ALTERNATE MECHANISM IN LIEU OF POST-CLOSURE PERMIT  
FORMER HEATCRAFT REMEDIATION SITE  
602 SUNNYVALE DRIVE  
WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
EPA ID NUMBER: NCD 057 451 270

An Alternate Mechanism in Lieu of Post-Closure Permit (Alternate Mechanism) was executed for the Former Heatcraft Remediation Site in August 2014. The Alternate Mechanism required Post-Closure Care and Corrective Action activities to address remnant soil and groundwater contamination at the Facility located at 602 Sunnyvale Drive in Wilmington, New Hanover County, North Carolina under the Federal Resource Conservation and Recovery Act (RCRA). The Alternate Mechanism is being considered for revisions to reflect revisions to the Environmental Sampling Protocols.

North Carolina has been authorized by the United States Environmental Protection Agency to administer RCRA including the Hazardous and Solid Waste Amendments (HSWA) of 1984. The North Carolina Hazardous Waste Section (HWS) has determined that the proposed activities as identified in Alternate Mechanism fully satisfy the intent of the North Carolina Hazardous Waste Management Rules and Solid Waste Management Act as amended. The Alternate Mechanism constitutes a complete Alternate Mechanism under the Federal Resource Conservation and Recovery Act.

### Background

The property was originally purchased and developed by Singer Company in the 1960's. Former operations included the fabrication of copper/aluminum heating and air conditioning coils from 1960 to 1991. Trichloroethene (TCE) was used in both hand cleaning and vapor degreasing associated with metal cleaning processes. TCE was replaced by 1,1,1-trichloroethane (TCA) in 1976.

Information related to waste management practices prior to the 1980's is unavailable; however, during the 1980's, two primary waste streams were generated as part of operations conducted at the Facility. The first waste stream was created from the degreasing system that was used to clean the heating and air conditioning heat exchangers. Two or three times a week, the vats of degreaser were allowed to boil down to a sludge which was drained into a 55-gallon drum equipped with a pump. The sludge was then pumped to one of two aboveground storage tanks, which were 2,500 and 3,000 gallons in capacity, respectively. About every 75 days, 4,000 gallons of the spent TCA was transported via bulk truck to the Prillaman Company, Martinsville, Virginia, plant for recovery.

The second waste stream was produced from the paint booth that was located northwest of the manufacturing building. Paint and virgin paint thinner were stored onsite prior to being used in the paint booth. As needed, paint was applied to the cabinetry that housed the heating and air conditioning equipment that was produced at the Facility. After painting, paint thinners were used to clean the associated paint spray guns. The paint waste and spent thinner were collected and stored in drums and other alternate disposal containers provided by the Prillaman Chemical Company of GSX. The hazardous wastes generated at the Facility during the manufacturing process included paint waste and spent thinner, TCA, Methyl Ethyl Ketone (MEK), and sulfuric acid.

On November 18, 1983, it was discovered that one of the two aboveground storage tanks had leaked. It was estimated that approximately 400 to 500 gallons of waste TCA had been released and had entered into a ditch located adjacent to the northwest property line. The State of North Carolina was notified at the time of the 1983 release. The Facility was advised by the State to contain the release and remove the impacted soil.

A second release of waste TCA occurred at the facility on July 16, 1987, when a drum containing vapor degreasing sludge was observed overflowing and discharging into the same ditch as the 1983 release. It was estimated that the 1987 release involved approximately 50 gallons of waste TCA. Information

regarding the 1987 release was reported to the State on July 24, 1987. To prevent the TCA from migrating offsite and potentially impacting the Cape Fear River, the Facility constructed an earthen dam (impoundment) across the ditch. Impacted soils (estimated 4,500 cubic feet) were mixed with 350 bags of Portland cement on November 12, 1987, in order to solidify the soil and TCA in the impoundment. The solidified soil was excavated and shipped to the GSX Pinewood, South Carolina, landfill for disposal.

Subsequent sampling of the impoundment indicated the presence of TCA in remaining soil. The State of North Carolina entered into an Administrative Order on Consent, Docket # 88-139 (AOC), with Heatcraft Inc. (executed April 20, 1989). Daikin Applied America Inc. (Daikin Applied) assumed environmental responsibility in 2006.

Since clean closure was not achieved, the Facility initiated post-closure care activities as required by the AOC. A post-closure plan was developed in 1990, revised in October 1991, submitted and approved by the HWS. The Facility is currently maintaining a regulated disposal unit (former impoundment) under 40 CFR 265.117, incorporated by reference in 15A NCAC 13A .0110, post-closure provisions. These provisions require groundwater monitoring and regular inspections and maintenance of the cap overlying the former impoundment.

Numerous investigations to characterize the subsurface hydrogeologic conditions have been performed. It has been determined that groundwater occurs within a dual aquifer system. The shallow aquifer is unconfined and is described as an unconsolidated sand unit that averages 30 feet thick, and limestone unit (Castle Hayne Limestone) that averages 10-15 feet thick. These lithologically-distinct units behave as one groundwater bearing unit, with the primary differences being the lithologic matrix and hydraulic conductivity. Groundwater flow in the surficial aquifer is to the southeast toward an unnamed tributary of Barnards Creek with a hydraulic gradient between 0.01 feet/foot and 0.06 feet/foot. The deep aquifer is classified as the Peedee Aquifer with an average thickness of 100-plus feet. The Peedee Aquifer is overlain by a silty unit (Peedee Silt) that represents a leaky confining unit and is underlain by a separate silt bed that forms an underlying confining unit. Groundwater flow within the Peedee Aquifer is to the south-southwest at an average rate of 0.003 feet/foot toward the Cape Fear River located approximately one mile west and south of the site.

Groundwater contamination has been identified in both aquifer systems. The most prevalent constituents of concern include 1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; trans-1,2-dichloroethene; trichloroethene; vinyl chloride, and 1,4-dioxane. An extensive groundwater monitoring well network has been installed that includes wells located both onsite and on downgradient offsite properties. The majority of the groundwater monitoring wells are sampled on a semi-annual basis for the presence of volatile organic compounds and 1,4-dioxane.

Adverse groundwater impacts are being addressed by installation and operation of multiple remedial alternatives, including pump-and-treat and air-sparge remediation systems. The pump-and-treat system is designed to recover contaminated groundwater and to mitigate offsite migration of the contamination. The air-sparge system is designed to provide relatively short duration injections of ambient air into the shallow aquifer to lower the concentration of contaminants that have the potential to migrate offsite property and impact this unnamed tributary.

The unnamed tributary is monitored for the presence of contamination. Analytical results indicate that vinyl chloride concentrations exceed applicable standards in the surface water collected from the unnamed tributary. Vinyl chloride is the only constituent to exceed applicable standards. Measured values exceed EPA's National Recommended Water Quality Criteria for Human Health. There is no 15A NCAC 2B Standard for vinyl chloride for Class C surface water bodies.

The area has been evaluated as a potential recreational resource. Although the unnamed tributary is shallow (less than one foot in depth), relatively narrow (less than eight feet in width), and overgrown, it cannot be assumed that the unnamed tributary is never accessed by individuals. Therefore, the exposure pathway is complete for residents, regular workers, construction workers, trespassers, and recreational users. Signage was posted as a precautionary measure.

The property is currently owned by Port City Distribution, LLC (Port City). Port City currently crates and packages large items for overseas barge shipping under the name S & R Packing and Crating. Financial responsibility for the environmental liability associated with the property is retained by Daikin Applied as an "operator".

The Alternate Mechanism requires Daikin Applied to continue to implement post closure care and groundwater monitoring activities, complete facility characterization activities, continue to operate on-going remedial activities, and to conduct corrective action for the remediation of contaminated media at the facility and beyond the facility boundary until the remediation goals are met.

#### Public Comment Period and Hearing

The North Carolina Hazardous Waste Management Rules require that the public be given a forty-five-day period to comment on the revised Alternate Mechanism. This forty-five (45) day period will commence on January 6, 2017 and end on February 20, 2017.

All data and information submitted by the Facility is part of the administrative record and available for review Monday through Friday during office hours (9:00 a.m. to 4:00 p.m.). The administrative record may be viewed in person at the Hazardous Waste Section file room located at 217 West Jones Street in Raleigh, North Carolina. Call (919) 707-8272 for an appointment to view the administrative record in the Hazardous Waste Section file room.

The administrative record can also be viewed electronically at the web address: <http://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/e-documents>. Electronic files can be searched using the ID Number: \*057451270\*. Files can be filtered by selecting preferred document group and document type. Information related to this decision may be found at <http://deq.nc.gov/news/events/public-notice-hearings>.

A Public Hearing will be held on Tuesday, February 7, 2017, at 1:00 o'clock p.m., at the Northeast Regional Library located at 1241 Military Cutoff Road in Wilmington, North Carolina. All attendees will have the opportunity to present five (5) minute oral statements regarding the revised Alternate Mechanism. Attendees may submit a written statement for the official record in addition to their oral statement or they may submit written comments in lieu of making an oral presentation.

Written comments can be also submitted at any time during the forty-five-day public comment period (January 6, 2017, through February 20, 2017). Comments should be sent to the following address:

Julie S. Woosley, Hazardous Waste Section Chief  
NC Division of Waste Management  
Hazardous Waste Section  
1646 Mail Service Center  
Raleigh, NC 27699-1646

When the final decision is made regarding the proposed revised Alternate Mechanism, notice will be given to the applicant and to each person who has submitted written comments or requested notice of the final decision.