



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL**

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SECRETARY

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**Secretary's Order No.: 2020-WH-0018**

**RE: Approving the Proposed Plan of Remedial Action for the General  
Motors Wilmington Assembly Plant - Operable Unit 4**

**Date of Issuance: June 15, 2020**

**Effective Date: June 15, 2020**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC"), pursuant to 7 *Del.C.* §§6006 and 6010, 7 *Del.C.* Chapter 91, the *Delaware Hazardous Substance Cleanup Act*, and all other relevant statutory authority, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced regulatory proceeding.

**Background, Procedural History and Findings of Fact**

This Order relates to the Department's Proposed Plan of Remedial Action for the General Motors Wilmington Assembly Plant - Operable Unit 4 ("Proposed Plan"). The Proposed Plan is issued pursuant to the statutory authority granted to the Department in 7 *Del.C.* Chapter 91, the *Delaware Hazardous Substance Cleanup Act* ("HSCA"). Specifically, 7 *Del.C.* §9107(e)(1), *Remedies*, directs that the Department shall "... before conducting a remedial action, propose a plan of remedial action based on any investigation or study conducted by or for the Secretary, the potentially responsible party, or others."

The Proposed Plan summarizes the clean-up (remedial) actions that the Department is proposing to address contamination found at the General Motors Wilmington Assembly Plant (“Site”), specifically at Operable Unit 4 (“OU-4”). The Site is located at 801 Boxwood Road in Wilmington, Delaware, and consists of five tax parcels (07-042.10-055, 07-042.10-143, 07-042.10-144, 07-038.40-052 and 07-042.20-010), totaling approximately 141 acres. The nearest intersection to the Site is Boxwood Road and Centerville Road.

The Remediation Section of the Department’s Division of Waste and Hazardous Substances issued its Proposed Plan in this matter on March 8, 2020, pursuant to the statutory requirements referenced above. Given the level of public interest that had been previously expressed in the Spring of 2019 with regard to the Department’s Proposed Plan of Remedial Action for this Site at Operable Unit 5, the Department made the decision to proactively hold a public hearing regarding this matter, even though no specific request for a hearing had been received. Thus, the Department held its virtual hearing regarding this matter via the State of Delaware Cisco WebEx Meeting Platform on April 9, 2020.

This Site was originally developed in 1945 by General Motors Corporation for the purpose of automobile assembly. Prior to 1945, the Site was undeveloped land. General Motors Corporation (“GM”) began operations at the Site in 1946, and continued automobile assembly operations until July 2009, at which time the plant was idled. The Site was sold to Fisker Automotive, Inc., in July 2010. On March 31, 2011, the Revitalizing Auto Communities Environmental Response Trust (“RACER Trust”) became effective, and began conducting, managing, and funding cleanup at 89 sites, including this former Wilmington Assembly Plant. In April 2014, the Site was purchased by Wanxiang Delaware Real Estate Holdings. Boxwood Industrial Park, LLC (“Boxwood”), purchased the Site in October 2017. On November 7, 2019, DPIF2 DE 1 New Castle, LLC purchased portions of the Site (OU-1, OU-2, and OU-3) from Boxwood. DPIF2 DE 1 New Castle, LLC purchased OU-4 and OU-5 on January 29, 2020. At the present time, DPIF2 DE 1 New Castle, LLC is working to redevelop the Site as a new distribution center, with associated auto parking and truck trailer parking.

The Site historically contained operations for the manufacturing of automobiles, including, but not limited to, petroleum products for fueling and heating, painting, wastewater treatment plant processes, cleaning parts, and hazardous waste storage. Each of these operations used various chemicals.

A portion of OU-4 contained the former Anchor Motor Freight Building. In March of 1990, twelve (12) petroleum Underground Storage Tanks (“USTs”) were removed from an area adjacent to the Anchor Motor Freight Building, in accordance with the *Delaware Underground Storage Tank Act* (“DUSTA”), 7 *Del.C.* Chapter 74. The USTs contained gasoline, diesel, waste oil, heating oil and engine oil. A hydrogeologic investigation was performed, and contaminated soil from the underground storage tank (“UST”) was excavated down to the groundwater table and the soil was reportedly bio-remediated. Following satisfactory completion of requirements under DUSTA, the *Delaware Regulations Governing Underground Storage Tank Systems* (7 DE Admin. Code 1351, “UST Regulations”), and UST closure standards, the Tank Management Section of the Department issued a No Further Action (“NFA”) letter on November 28, 1990 for the UST area.

Since 1999, additional investigations have been performed at the Site in the former aboveground storage tank area that identified the release of hazardous substances addressed under HSCA. Subsequently, after the GM plant closure, a Remedial Investigation (“RI”) was performed at the Site in multiple phases from 2011 to 2014, in accordance with requirements outlined in HSCA. The RI required under HSCA indicated that petroleum contamination was still present on OU-4. The Department determined that although requirements were met under DUSTA and the UST Regulations during the 1990 remedial actions, contaminated soil below the groundwater table was not removed. These remaining saturated, petroleum contaminated soils impacted the groundwater and soil gas beneath the Site, resulting in an unacceptable risk under current HSCA risk assessment guidance.

Due to the risk associated with the presence of soil gas petroleum concentrations at OU-4, a Soil Vapor Extraction (“SVE”) system with six (6) extraction wells was installed in February 2015 as an interim action to address the soil gas migration offsite. The SVE system operated until June 2018. During its three years of operation, the SVE system removed approximately 8,065 pounds of petroleum hydrocarbons. Over time, the SVE recovery of petroleum hydrocarbons slowed. Additional temporary extraction wells were installed, but recovery was very slow. The Department subsequently approved turning off the system. After the SVE system was turned off, indoor, sub-slab, ambient air and soil gas samples were collected in and around the townhouses, which demonstrated that turning off the system did not cause a vapor intrusion risk to the public.

The final RI Report, which provided a summarization of the multiple-phase RI that occurred from 2011 to 2014 as noted above, was completed in 2015. The risk assessment performed as part of that RI report concluded that the risk from the unsaturated soil in OU-4 was within acceptable standards, and thus the Department did not find a risk from the soil in OU-4. Groundwater in OU-4, however, was found to contain volatile organic compounds (“VOCs”), specifically, ethylbenzene, 1,2,4-trimethylbenzene and xylene, and the semi-volatile organic compound (“SVOC”), naphthalene, which were above the acceptable standards for potable use. Given those findings, the use of the groundwater for potable use is restricted by an environmental covenant established by previous Final Plans for the entire Site.

Groundwater contamination above the acceptable DNREC standard for potable use was found to be migrating offsite from OU-4 in a northeast direction, across Dodson Avenue, and under a few of the townhouses located to the east of Dodson Avenue. The offsite groundwater contaminant concentrations are lower than the onsite groundwater contaminant concentrations. In addition, the groundwater contamination migrating offsite from OU-4 is reducing in concentrations. Currently, there are no potable wells within one (1) mile of OU-4.

The townhouses and surrounding areas are provided potable water by a public water system. Based on this information, it is concluded that there is no current risk for potable use of the groundwater at these properties and beyond. Groundwater monitoring will be performed as part of a Long-Term Stewardship (“LTS”) plan to allow periodic evaluation of contaminant concentrations and associated risk. Additional measures may be required if an unacceptable risk is identified. In addition, if a groundwater well is planned in the future, the request will be evaluated by DNREC for approval and additional measures may be required according to the LTS plan required in the Proposed Plan.

In addition to the elevated groundwater contamination found in the OU-4, non-aqueous phase petroleum (“NAPL”) was also found floating on top of the groundwater in one of the monitoring wells in OU-4. The extent of the NAPL was delineated in subsequent investigations in OU-4 and was not found to extend off the GM property. Groundwater monitoring will be performed as part of the LTS plan. The groundwater monitoring will include periodic evaluation for NAPL, and additional measures may be required if NAPL is identified.

Based on the proximity of the townhouses, and the migration of contaminated groundwater offsite from OU-4, the vapor intrusion pathway was investigated both onsite and offsite. Vapor intrusion is the migration of contamination from contaminated groundwater to soil gas as a vapor, which can travel into buildings where it can present a health risk. Vapor intrusion is a complicated pathway to evaluate, where many factors need to be considered together to determine if vapor intrusion is occurring.

For possible future onsite indoor workers in OU-4, the RI indicated a potential vapor intrusion risk above DNREC standards for the VOCs, 1,2,4-trimethylbenzene and xylene. It should be noted, however, that there is no building on OU-4, nor are there plans to construct a building on OU-4, thus there is no current risk for onsite indoor workers. However, new data was collected after the RI, and the vapor intrusion risk to onsite workers was re-evaluated.

This re-evaluation indicated that there is no vapor intrusion risk to current workers on OU4 and would not present a risk to indoor workers, if a new building is constructed in OU-4. To evaluate the possibility of offsite impacts, samples were collected from the townhouse properties across Dodson Avenue from GM OU-4 (the closest residences to OU-4). Groundwater, soil gas, sub-slab (under the concrete floor), indoor air (air collected inside a building) and outdoor air samples were collected during numerous monitoring events.

For the offsite townhouses, elevated levels of benzene, 1,2,4-trimethylbenzene and ethylbenzene were detected in indoor air and outdoor air, but not in the sub-slab air, indicating an outdoor or indoor air source. Since the source for the VOCs was determined to be from an outdoor or indoor air source, the groundwater contamination from GM did not appear to be causing vapor intrusion impact to the indoor air. As a result, there is no vapor intrusion risk from groundwater migrating offsite from GM.

Based on the NAPL contamination in OU-4 and the possibility that vapors could migrate over time to the residences on the east side of Dodson Avenue, the Department (out of an abundance of caution) decided to implement an interim action to remediate the OU-4 groundwater before all the investigations on OU-4 were complete. As noted previously, the SVE system installed in OU-4 in February 2015 continued to operate until June 2018. Samples of indoor, sub-slab, ambient air and soil gas collected in and around those residences subsequent to the system being turned off confirmed that (1) turning off the system did not cause GM contamination to be a risk to the public; and (2) there was still no offsite vapor intrusion risk caused by GM contamination.

It should be noted that the current property owner is constructing a new distribution center with associated parking for both automobiles and truck trailers. As a result, OU-4 will be paved, and used primarily for truck trailer parking.

The Department's Proposed Plan for OU-4 contains a five-part plan of remedial action. The Proposed Plan, which was presented in detail at the time of the virtual public hearing held on April 9, 2020, can be summarized as follows:

1. **An Environmental Covenant, consistent with Delaware's Uniform Environmental Covenants Act (7 Del.C., Ch. 79, Subchapter II), must be recorded with the New Castle County Recorder of Deeds within 90 days of the issuance of the Final Plan of Remedial Action.** The Environmental Covenant will cover New Castle County tax parcel 07-042.10-144. The restrictions will cover OU-1 to OU-5, even if the restrictions are not necessary for every OU. The Environmental Covenant must include the following activity and use restrictions: (a) Site Use Restrictions to non-residential use; (b) Limitation of Groundwater Withdrawal; (c) Compliance with Contaminated Materials Management Plan; and (d) Compliance with the Long-Term Stewardship Plan.
2. **A Long-Term Stewardship Plan, updated with OU-4 requirements, must be submitted to DNREC within 60 days of the issuance of the Remedial Action Work Plan.** This will detail the groundwater monitoring program to ensure that groundwater concentrations in OU-4 are not increasing to a level that would present a risk to offsite receptors.
3. **A Contaminated Materials Management Plan ("CMMP"), updated with OU-4 requirements, shall be submitted to DNREC within 60 days of the end of the Final Plan of Remedial Action appeal period.** The CMMP will provide guidance to enable construction workers to safely handle any potential contaminated soil, prevent soil migration (soil and airborne dust) and groundwater at the Site (Completed).
4. **A Remedial Action Completion Report must be submitted to DNREC within 60 days of the completion of the remedial actions required in this Proposed Plan.** This report will document all remedial actions that have been performed at OU-4.

5. **A Request for Certification of Completion of Remedy must be submitted to DNREC within 60 days of approval of the Remedial Action Completion Report.**

This is the certification that the Department will give to the property owners to verify that all remedial actions have been successfully completed.

As noted previously, the Department has the statutory basis and legal authority to act with regard to this Proposed Plan, pursuant to 7 *Del.C.* Ch. 91, specifically, at §9107(e)(1), *Remedies*. Members of the public attended the virtual hearing held on April 9, 2020. The hearing record formally closed for comment in this matter on April 24, 2020, with no public comment having been received by the Department during any phase of this hearing matter.

It should be noted that all noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

Hearing Officer Vest prepared a Hearing Officer's Report dated May 11, 2020 ("Report"), which documents the proper completion of the required administrative procedures necessitated by this process, establishes the hearing record ("Record"), and recommends the adoption of the Department's Proposed Plan as the Final Plan of Remedial Action for the General Motors Wilmington Assembly Plant – Operable Unit 4.

**Reasons and Conclusions**

Based on the Record developed by the Department's experts and established by the Hearing Officer's Report, I find that the Department's Proposed Plan of Remedial Action for the General Motors Wilmington Assembly Plant – Operable Unit 4 is well-supported. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that this Proposed Plan, as set forth above, be adopted as the Department's Final Plan of Remedial Action in this matter.



I further find that the Department's experts in the Division of Waste and Hazardous Substances, Remediation Section staff, fully developed the record to support adoption of this Proposed Plan.

The following reasons and conclusions are entered:

1. The Department has the statutory basis and legal authority to act with regard to its Proposed Plan of Remedial Action for the General Motors Wilmington Assembly Plant - Operable Unit 4, pursuant to *7 Del.C. Ch. 91*, specifically, at §9107(e)(1), *Remedies*;

2. The Department has jurisdiction under its statutory authority, pursuant to *7 Del.C. Ch. 60*, to issue an Order adopting this Proposed Plan as a Final Plan of Remedial Action for OU-4;

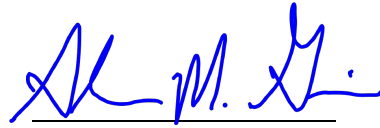
3. The Department provided adequate public notice of this Proposed Plan, and of all proceedings in a manner as required by the law and regulations. The Department also provided the public with an adequate opportunity to comment on the same, including holding the Record open for receipt of public comment subsequent to the date of the aforementioned virtual hearing (through April 24, 2020) before making any final decision;

4. The Department has carefully considered the factors required to be weighed with regard to the implementation of the aforementioned Proposed Plan, and finds that the Record supports adoption of the same as its Final Plan of Remedial Action in this matter;

5. Adoption of the aforementioned Proposed Plan as the Department's Final Plan of Remedial Action for the General Motors Wilmington Assembly Plant OU-4 will enable the Department to ensure continued improvement of environmental quality at OU-4, as referenced above;

6. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and

7. The Department shall serve and publish its Order on its internet site and provide such other notice as the Department determines is appropriate.



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Shawn M. Garvin  
Secretary

Ahear\ Proposed Plan Remed. Action GM OU4. 2020 ORD