



# Proposed Project Summary

## DTE Dearborn CEP LLC, Dearborn, MI

The Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), is asking for comments from the public on a proposed Permit to Install (PTI) for DTE Dearborn CEP LLC (DTE). The AQD will accept comments on the proposed PTI until the end of the public hearing on March 27, 2018, which is the close of the comment period. We will review all comments before we make a final decision on the proposal.

### What does the company do?

DTE is proposing to build a new combined heat and power plant within the existing Ford Motor Company's R&E Center's (Ford) facility located at 1641 Carol Shelby Way East, Dearborn, Michigan.

Ford currently operates existing boilers that meet their needs for steam. They are planning on shutting down some of these boilers and having DTE meet their steam needs going forward. DTE will also produce electricity that will be sent to the electrical grid. Even though the DTE plant will be located at the Ford R&E center, it will be regulated separately from Ford.

### What does the company want to do under the PTI application?

DTE's proposed new combined heat and power plant will consist of two natural gas-fired turbine generators that are connected to heat recovery steam generators with duct burners located in them. The duct burners create additional heat to help produce more steam. They are also proposing to install an emergency engine to provide electricity during outages.

Figure 1 on page 3 of this document shows an example of a combustion turbine electric generation process. The new turbines will provide electric generating capacity. Exhaust from the turbines will flow into the steam generators and will heat water into steam. This process will allow DTE to produce the steam Ford needs, and to use the excess steam to create additional electricity for the grid. The process will be equipped with burners designed to reduce the emissions of nitrogen oxides (NO<sub>x</sub>).

### What is a PTI and why is one needed?

A PTI, commonly known as an air use permit, is required for projects that involve installing, constructing,

reconstructing, relocating, or modifying most process or process equipment that emits, or may emit, air contaminants. A new PTI is also required if a company wants to make changes to their current air permit.

The AQD has reviewed the proposed project, and written proposed permit conditions that include requirements to make sure the project complies with all applicable laws and regulations.

### What else can you tell me about this change?

DTE has agreed to take operating restrictions to keep the new plant below "major" source levels under both the Prevention of Significant Deterioration and Title V regulations. Major sources are facilities that emit amounts of air pollution above certain levels.

The proposed plant will be subject to the federal New Source Performance Standards and the federal National Emission Standards for Hazardous Air Pollutants. These federal standards define maximum emission rates for certain pollutants that are emitted from the proposed plant.

Michigan's Air Pollution Control Rules also require best available control technology for volatile organic compound emissions and require that toxic air contaminant emissions, which are produced during the combustion of natural gas, comply with health-based standards.

### Will the facility meet the air quality standards?

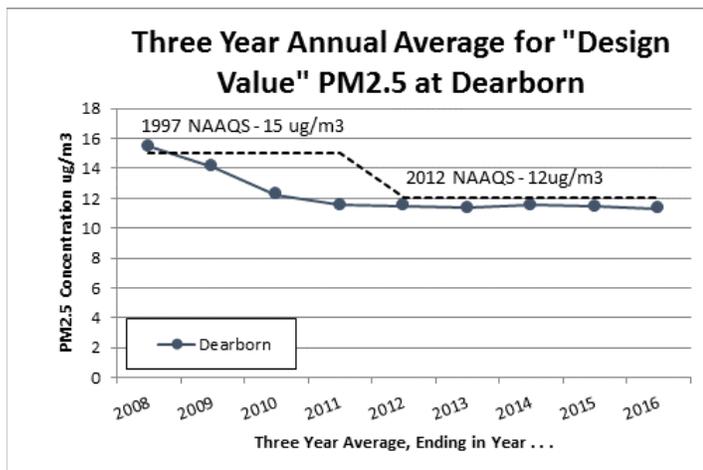
The United States Environmental Protection Agency (USEPA) has developed health-based standards for specific air pollutants. These standards are called the National Ambient Air Quality Standards (NAAQS). The proposed emissions of NO<sub>x</sub> and fine particulate (PM<sub>2.5</sub>) will meet their applicable NAAQS. The respective NAAQS set the maximum concentration of each pollutant in the

breathing zone that would protect the health of the most sensitive individuals, including those with heart, respiratory, neurological and asthma problems. Michigan has developed health-based standards for additional pollutants, referred to as toxic air containments (TACs) under its Air Toxics rules. The proposed emissions will also comply with all applicable TAC screening levels.

### What is the current air quality in the area?

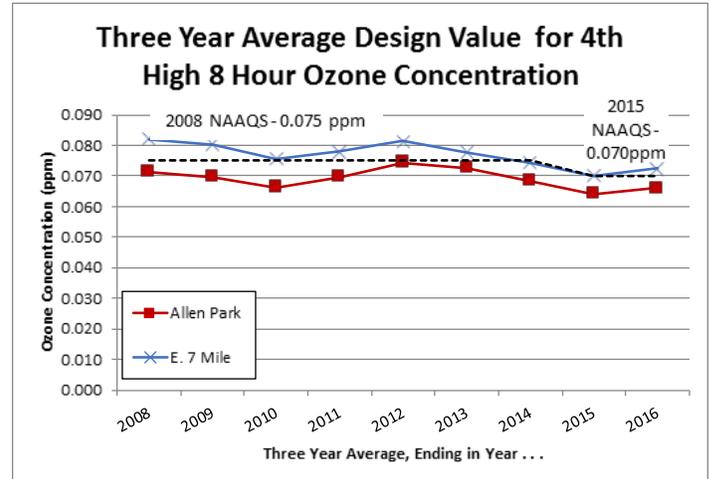
The facility is in Wayne County, Michigan which is meeting all of the NAAQS, except for sulfur dioxide. The USEPA is planning to designate Wayne County as non-attainment for ozone in the Spring of 2018. The nearest monitoring station, in Dearborn, monitors for PM2.5. Figure 2 shows the concentrations at this monitor.

**Figure 2.** Three year average of the annual average PM2.5 concentration at Dearborn

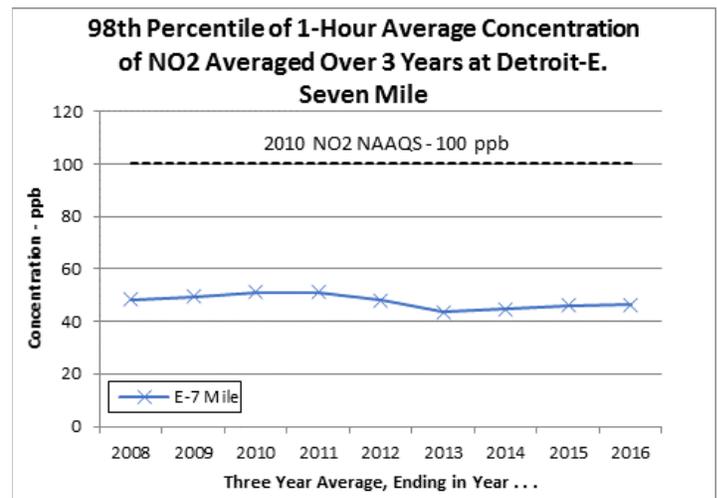


The MDEQ's nearest ozone monitors are Allen Park and Detroit-E. Seven Mile. The MDEQ's nearest nitrogen dioxide (NO<sub>2</sub>) monitor is in Detroit-E. Seven Mile. The MDEQ's nearest carbon monoxide (CO) monitor is in Allen Park. Figures 4, and 5 show the concentrations at these monitors are well below the NO<sub>2</sub> and CO NAAQS standards.

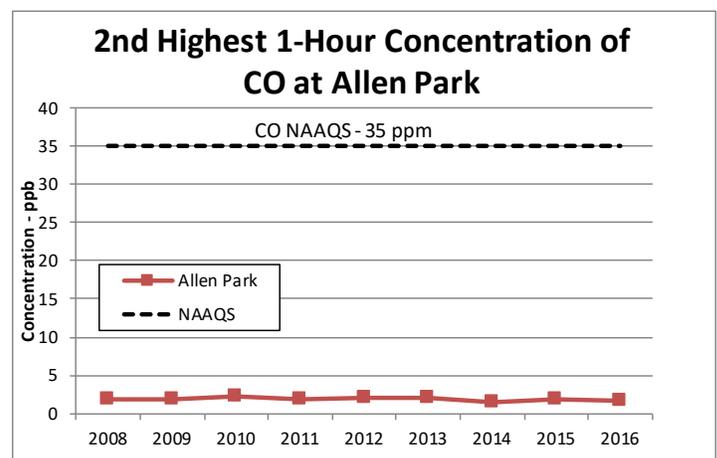
**Figure 3.** Three year average of the 4<sup>th</sup> high ozone concentration at Allen Park and Detroit-E. Seven Mile



**Figure 4.** 98<sup>th</sup> Percentile of the 1-Hour Average Concentration of NO<sub>2</sub> at Detroit-E. Seven Mile



**Figure 5.** Second highest maximum 1-hour concentration of CO at Allen Park



## Where can I find more information?

There are two ways to find more information about the PTI application: the Public Participation Fact Sheet has additional details about the project and how it will meet the rules and regulations, and AQD staff can provide additional information upon request. Here are some examples of information you may find useful:

- A summary of the reviews completed by the AQD staff.
- How the project will affect air quality and public health.
- A summary of what the proposed permit would require the company to do.
- A summary of the allowed emissions that are included in the proposed permit.
- The rules and regulations that apply to the project.
- Example emission calculations.

## Summary:

The AQD has reviewed the PTI application for the proposed project and prepared a proposed permit for the

facility. If approved, the permit will ensure the facility meets the applicable air quality requirements. Therefore, we are proposing to approve the permit.

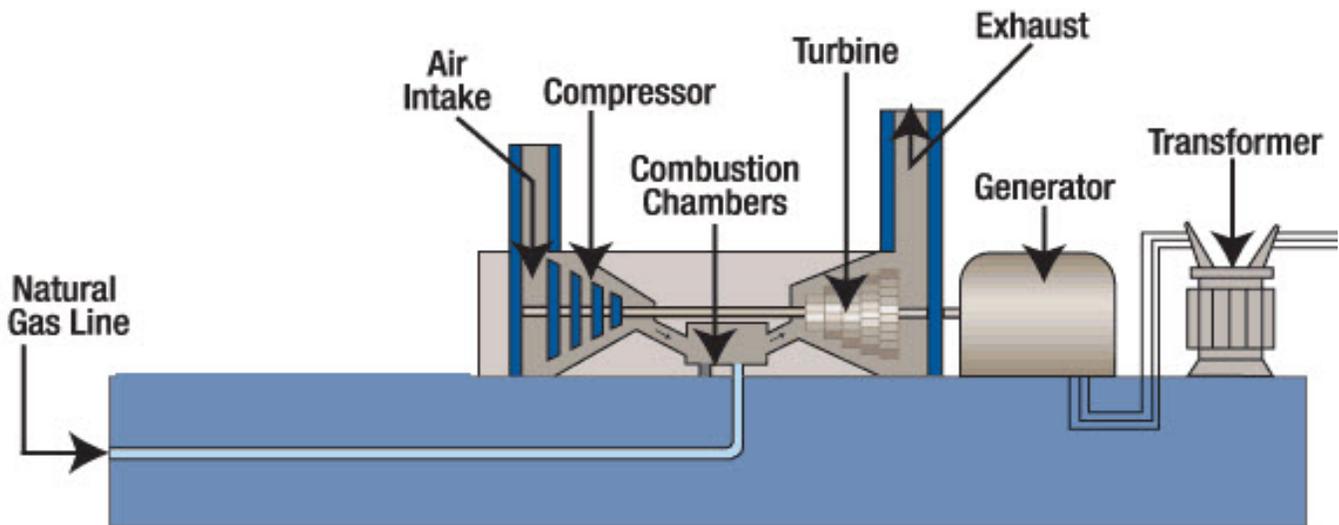
Before the AQD takes action on the PTI, we are requesting comments from the public. The AQD will review all comments received during the public comment period and public hearing and will decide whether to approve or deny the proposed PTI. If approved, the AQD may decide to add or change permit conditions based on the comments.

## What if I would like to make a comment?

The AQD welcomes comments from the public during the comment period. Prior to making a comment, it is a good idea to “View an Example” of how to do it. You may also want to read the “Public Hearings – What you should know” card. These documents can be found at <http://www.deq.state.mi.us/aps/cwerp.shtml>.

## Who can I contact?

For more information about the proposed PTI, please contact Ms. Catherine Asselin, AQD, at: AsselinC@michigan.gov or 517-284-6786.



**Figure 1.** Example of natural gas-fueled turbine electric generation process

*Fresh atmospheric air flows through a compressor that brings it to higher pressure. Natural gas is mixed with the air and ignited in the combustion chamber producing high-temperature high pressure combustion gas. This combustion gas then enters a turbine, where it spins the turbine blades on its path to reach a lower pressure at the exhaust. The turbine blades are attached to a shaft that is used to drive the compressor and electric generator. The transformer is used to change the voltage of the power to meet utility requirements.*

*Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making. Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.*