

## 6. Toxic Air Contaminates

Toxic air contaminants (TACs) are airborne pollutants that may be expected to result in an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs are also referred to as toxic air pollutants or hazardous air pollutants (HAP). A wide range of sources, from industrial plants to households emit TACs.

A chemical becomes a regulated TAC after it is identified by ARB's California Air Toxics Program or the U.S. Environmental Protection Agency's (EPA) National Air Toxics Assessments, assessed for its potential for human exposure, and evaluated for its health effects on humans. ARB has listed approximately 200 toxic substances, including those identified by EPA, which are identified on the California Air Toxics Program's TAC List. More information on specific TACs and health effects of exposure is available at the ARB's Air Toxics Program website: <http://www.arb.ca.gov/toxics/toxics.htm>.

TACs can cause long-term health effects such as cancer, birth defects, neurological damage, or genetic damage; or short-term acute effects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur and cancer risk is expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic substances differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis. Acute and chronic exposure to non-carcinogens is expressed in using a Hazard Index (HI), which is the ratio of expected exposure levels to acceptable health-acceptable exposure levels.

The District recommends that CEQA documents analyze potential impacts resulting from exposure of TACs. These analyses should consider both of the following situations:

1. A new or modified source of TACs is proposed for a location near an existing residential area or other sensitive receptor, and
2. A residential development or other sensitive receptor is proposed for a site near an existing source of TACs.

The CEQA analysis shall include the following:

- A discussion of types of construction activities that would occur and the TAC emission sources associated with those activities (typically Diesel PM and asbestos);
- A discussion of TAC emission sources generated during operational phase;
- A significance determination about construction-generated TAC emissions, without mitigation;
- A significance determination about exposure to TACs from project operational phase without mitigation; and
- A discussion of feasible mitigation necessary to reduce TAC exposure resulting from project construction and operational phases, and whether the reduction would be sufficient to reduce the impact to a less-than-significant level.

Facilities and equipment that require a permit to operate from the District are screened for risks from TACs and must be in compliance with the District's Risk Management Policy. Federal major sources for TACs may be required to install Toxic Best Available Control Technology (T-BACT). Sources of TAC emissions must also comply with all applicable Air Toxic Control Measures

(ATCMs) issued by the CARB and the National Emission Standards for Hazardous Air Pollutants (NESHAPS) issued by the EPA.

For a project that includes a residential development or other sensitive receptor locating near an existing, non-permitted source of TACs, such as a roadway, truck stop, or railroad yard, the District recommends the Lead Agency use the screening tables and recommendations in the ARB's Air Quality and Land Use Handbook (available at: <http://www.arb.ca.gov/ch/landuse.htm>). The California Air Pollution Control Officers Association's (CAPCOA) Health Risk Assessments for Land Use Projects may be used as guidance for conducting health risk assessments, available at: [http://www.capcoa.org/rokdownloads/HRA/CAPCOA\\_HRA\\_LU\\_Guidelines\\_8-6-09.pdf](http://www.capcoa.org/rokdownloads/HRA/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf).

## Specific TACs of Common Occurrence in Land Use Projects

### Asbestos

#### Demolition of Asbestos-Containing Materials

Asbestos is a mineral fiber that has been used commonly in a variety of building construction materials for insulation and as a fire-retardant. When asbestos-containing materials are damaged or disturbed by repair, remodeling or demolition activities, microscopic fibers become airborne and can be inhaled into the lungs, where they can cause significant health problems. Demolition of existing buildings and structures would be subject to the National Emissions Standards for Asbestos (40CFR Part 61 Subpart M) available at <http://www.epa.gov/asbestos/pubs/40cfr61subpartm.pdf>.

For projects that include a demolition as part of the construction phase, the District recommends the following be required:

*Prior to demolition of existing structures, an asbestos evaluation must be completed in accordance with the Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations. Section 61.145 requires written notification of demolition operations. Asbestos NESHAP Demolition/Renovation Notification Form can be downloaded at <http://www.arb.ca.gov/enf/asbestosform.pdf>. This notification should be typewritten and postmarked or delivered no later than ten (10) days prior to the beginning of the asbestos demolition or removal activity. Please submit the original form to USEPA and a copy each to California Air Resources Board (CARB) and the District at the addresses below:*

U.S. EPA	CARB, Compliance Division	FRAQMD
Attn: Asbestos NESHAP Program	Attn: Asbestos NESHAP Program	Attn: Compliance Division
75 Hawthorne Street	P.O. Box 2815	1007 Live Oak Blvd. Suite B-3
San Francisco, CA 94105	Sacramento, CA 95814	Yuba City, CA 95991

#### Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present. NOA was identified as a TAC by the ARB in 1986. The ARB has adopted two ATCMs for NOA, which were adopted by the District in Rule 11.1. A lead agency should discuss whether a proposed project would be located in an area likely to contain NOA. If a project would not involve earth-disturbing construction activity in one of these areas or would not locate receptors in one of these areas then it can be assumed that the project would not have the potential to expose people to airborne asbestos particles. If a project would be located in an area moderately likely to contain NOA, then the impact shall be considered potentially significant.

## **Diesel Particulate Matter**

In September 2000, ARB adopted the Diesel Risk Reduction Plan, which recommends many control measures to reduce the risks associated with diesel PM and achieve a goal of 75% PM reduction by 2010 and 85% by 2020. The key elements of the Plan are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, to lower the sulfur content of diesel fuel, and implement advanced technology emission control devices on diesel engines.

Construction activity can result in emissions of particulate matter from the diesel exhaust (diesel PM) of construction equipment. The following are mitigation measures that can be used to reduce the impact to sensitive receptors from off-road diesel equipment:

- Install diesel particulate filters or implement other ARB-verified diesel emission control strategies on all construction equipment to further reduce diesel PM emissions beyond the 45% reduction required by the District's Best Available Mitigation Measures for Construction Phase;
- Use equipment during times when receptors are not present (e.g., when school is not in session or during non-school hours; or when office buildings are unoccupied);
- Establish staging areas for the construction equipment that are as distant as possible from off-site receptors;
- Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible;
- Use haul trucks with on-road engines instead of off-road engines even for on-site hauling;
- Equip nearby buildings with High Efficiency Particle Arresting (HEPA) filter systems at all mechanical air intake points to the building to reduce the levels of diesel PM that enter the buildings; and/or
- Temporarily relocate receptors during construction activity.

Lead agencies should consider the applicability and feasibility of each measure on a project by project basis. The District also encourages lead agencies to develop additional measures.

Diesel PM can also be present near busy roadways, and areas frequented by heavy-duty diesel trucks, such as distribution centers. The District recommends that Lead Agencies use the screening table provided by in the ARB's Air Quality and Land Use Handbook available at <http://www.arb.ca.gov/ch/landuse.htm>. The District has not established a threshold of significance to evaluate the health risk resulting from projects that would locate sensitive receptors near

existing non-permitted sources of TACs. Lead agencies shall consider the following parameters when evaluating the impact associated with the development of sensitive receptors near land uses that include non-permitted sources of TACs:

- Risk factors of the TACs generated by the land use;
- Intensity of TAC-generating activity (e.g., number of diesel trucks);
- Predominant wind direction relative to the TAC source and affected receptors; and
- Rate at which the TACs generated by the source drop off over distance, if available.