Correspondence

Air Pollution Control Division

OhioEPA

APC Contractual Representative
Serving All of Stark County

Canton City Health Department

420 Market Avenue North • Canton, Ohio • 44702-1544
(330) 489-3385 • Fax: (330) 489-3335

Daniel J. Aleman, P.E., MBA
APCD Administrator

James M. Adams, MPH
Health Commissioner

CERTIFIED MAIL

June 28, 2010

Becky Goulden
7311 Beeson St. NE
Louisville, OH 44641-9708

Re: WARNING LETTER RE: ILLEGAL OPEN BURNING ON YOUR PROPERTY IN MARLBORO TOWNSHIP

Dear Ms. Goulden:

The Canton City Health Department, Air Pollution Control Division (APCD) represents the Ohio EPA in air quality matters within Stark County. As such, APCD employees are charged with the responsibility to investigate and enforce Ohio EPA (OEPA) air pollution regulations.

This Agency has been advised that the Marlboro Volunteer Fire Company responded to a fire on your property on 6/10/2010. They reported the burning of tires and trash. Open burning of tires is especially harmful to the environment because toxic chemicals are released into the air. Also, oily residues are created which find their way into the soil. I have enclosed two pages from an EPA study on tire combustion.

You are, hereby, advised that this fire was conducted in violation of Ohio Administrative Code 3745-19-04 (A). There will be no EPA fines or enforcement at this time, but please be aware that future violations can incur fines of $250 per day per violation.

Sincerely,

Gregory A Clark

Gregory A. Clark, CHMM, CAHES
Air Pollution Control Engineer

Enclosures: OAC Rule 3745-19-04; Abstract from "Air emissions From Scrap Tire Combustion, EPA-600/R-97-115.

cc: Addressee via First Class Mail
Marlboro Volunteer Fire Co., 9577 Edison St. NE, Alliance, OH 44601
Officer David Betz, Marlboro Twp. Police Dept.., 7344 Edison St. N.E., Hartville, Ohio 44632
Correspondence File
Complaints, Open Burn, Residential, Marlboro Township
GA Clark

7009 0080 0002 0413 2060

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BECKY GOULDEN
7311 BEESON ST NE
LOUISVILLE, OH - 708

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BECKY GOULDEN
7311 BEESON ST NE
LOUISVILLE, OH 44641-9708

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ben Goulden ☐ Agent ☐ Address

B. Received by (*Printed Name*) Ben Goulden
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D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

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PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15

EPA-600/R-97-115
October 1997

AIR EMISSIONS FROM SCRAP TIRE COMBUSTION

Prepared by:

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EPA Contract No. 68-D30035
Work Assignment No. III-111

EPA Project Manager:

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Prepared for:

U.S.-Mexico Border Information Center on Air Pollution
Centro Informacion sobre Contaminacion de Aire/CICA
and
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711
and
Office of Research and Development
U.S. Environmental Protection Agency
Washington, DC 20460

EXECUTIVE SUMMARY

Two to three billion (2-3 x10^9) scrap tires are in landfills and stockpiles across the United States, and approximately one scrap tire per person is generated every year. Scrap tires represent both a disposal problem and a resource opportunity (e.g., as a fuel and in other applications). Of the many potential negative environmental and health impacts normally associated with scrap tire piles, the present study focuses on (1) examining air emissions related to open tire fires and their potential health impacts, and (2) reporting on emissions data from well designed combustors that have used tires as a fuel.

Air emissions from two types of scrap tire combustion are addressed: uncontrolled and controlled. Uncontrolled sources are open tire fires, which produce many unhealthful products of incomplete combustion and release them directly into the atmosphere. Controlled combustion sources (combustors) are, for example, boilers and kilns specifically designed for efficient combustion of solid fuel. Combustor emissions are much lower and more often than not, these sources also have appropriate add-on air pollution control equipment for the control of particulate emissions.

Very little data exist for devices that are not well-designed and use scrap tires for fuel. These sources include fireplaces, wood stoves, small kilns, small incinerators, or any device with poor combustion characteristics. Air emissions from these types of devices are likely between that of open burning and a combustor. There is serious concern that emissions would be more like those of an open tire fire than a well-designed combustor; however, emissions testing would have to be conducted to confirm this.

Open Tire Fires

Air emissions from open tire fires have been shown to be more toxic (e.g., mutagenic) than those of a combustor, regardless of the fuel. Open tire fire emissions include "criteria" pollutants, such as particulates, carbon monoxide (CO), sulfur oxides (SO_x), oxides of nitrogen (NO_x), and volatile organic compounds (VOCs). They also include "non-criteria" hazardous air pollutants (HAPs), such as polynuclear aromatic hydrocarbons (PAHs), dioxins, furans, hydrogen chloride, benzene, polychlorinated biphenyls (PCBs); and metals such as arsenic, cadmium, nickel, zinc, mercury, chromium, and vanadium. Both criteria and HAP emissions from an open tire fire can represent significant acute (short-term) and chronic (long-term) health hazards to firefighters and nearby residents. Depending on the length and degree of exposure, these health effects could include irritation of the skin, eyes, and mucous membranes, respiratory effects, central nervous system depression, and cancer. Firefighters and others working near a large tire fire should be equipped with respirators and dermal protection. Unprotected exposure to the visible smoke plume should be avoided.

Data from a laboratory test program on uncontrolled burning of tire pieces and ambient monitoring at open tire fires are presented and the emissions are characterized. Mutagenic emission data from open burning of scrap tires are compared to other types of fuel combustion. Open tire fire emissions are estimated to be 16 times more mutagenic than

residential wood combustion in a fireplace, and 13,000 times more mutagenic than coal-fired utility emissions with good combustion efficiency and add-on controls.

A list of 34 target compounds representing the highest potential for inhalation health impacts from open tire fires was developed by analyzing laboratory test data and open tire fire data collected at nine tire fires. The list can be used to design an air monitoring plan in order to evaluate the potential for health risks in future events.

Methods for preventing and managing tire fires are presented. Recommendations are presented for storage site design, civilian evacuation, and fire suppression tactics. For example, tire piles should not exceed 6 m (20 ft) in height; maximum outside dimensions should be limited to 76 m (250 ft) by 6 m (20 ft). Interior fire breaks should be at least 18 m (60 ft) wide. Civilians should be evacuated when they may be subject to exposure by the smoke plume. Fire suppression tactics are site and incident-specific and firefighters should have specialized training to deal effectively with them.

Other Impacts from Open Tire Burning

The scope of this report is limited to airborne emissions. However, significant amounts of liquids and solids containing dangerous chemicals can be generated by melting tires. These products can pollute soil, surface water, and ground water and care must be taken to properly manage these impacts as well.

Controlled Combustion

The results of a laboratory test program on controlled burning of tire-derived fuel (TDF) in a Rotary Kiln Incinerator Simulator (RKIS) are presented. In all, 30 test conditions were run, with the TDF feed rate varying from 0 to 21.4% of heat input. The test conditions were achieved by varying kiln firing rate, combustion air flow rate, and tire feed rate. The majority of the tests were conducted with a steady-state feed of TDF. However, variations in the mode of TDF feeding were simulated in two tests to evaluate the impact of transient operation on air emissions.

Based on the results of the RKIS test program, it can be concluded that, with the exception of zinc emissions, potential emissions from TDF are not expected to be very much different than from other conventional fossil fuels, as long as combustion occurs in a well-designed, well-operated and well-maintained combustion device. However, as with most solid fuel combustors, an appropriate particulate control device would likely be needed in order to obtain an operating permit in most jurisdictions in the United States.

Test data, from 22 industrial facilities that have used TDF are presented: 3 kilns (2 cement and 1 lime) and 19 boilers (utility, pulp and paper, and general industrial applications). All sources had some type of particulate control. In general, the results indicate that properly designed existing solid fuel combustors can supplement their normal fuels, which typically consist of coal, wood, coke and various combinations thereof, with 10 to 20% TDF and still satisfy environmental compliance emissions limits. Furthermore, results from a dedicated tires-to-energy (100% TDF) facility indicate that it is possible to have

3745-19-04 Open burning in unrestricted areas.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see the last paragraph of rule 3745-19-01 of the Administrative Code titled "Incorporation by reference."]

(A) No person or property owner shall cause or allow open burning in an unrestricted area except as provided in paragraphs (B) to (C) of this rule or in section 3704.11 of the Revised Code.

(B) Open burning shall be allowed for the following purposes without notification to or permission from the Ohio EPA:

(1) Heating tar, welding, acetylene torches, highway safety flares, heating for warmth of outdoor workers and strikers, smudge pots and similar occupational needs.

(2) Bonfires, campfires and outdoor fireplace equipment, whether for cooking food for human consumption, pleasure, religious, ceremonial, warmth, recreational, or similar purposes, if the following conditions are met:

(a) They are fueled with clean seasoned firewood, natural gas or equivalent, or any clean burning fuel with emissions that are equivalent to or lower than those created from the burning of seasoned firewood;

(b) They are not used for waste disposal purposes; and

(c) They shall have a total fuel area of three feet or less in diameter and two feet or less in height except when such fire is used for ceremonial purposes it may have a total fuel area no

greater than five feet in diameter and five feet in height if the ceremonial fire burns no longer than three hours.

(3) Disposal of residential waste or agricultural waste generated on the premises if the following conditions are observed:

(a) The fire is set only when atmospheric conditions will readily dissipate contaminants;

(b) The fire does not create a visibility hazard on the roadways, railroad tracks, or air fields;

(c) The fire is located at a point on the premises no less than one thousand feet from any inhabited building not located on said premises;

(d) The wastes are stacked and dried to provide the best practicable condition for efficient burning; and

(e) No materials are burned which contain rubber, grease, asphalt or liquid petroleum products.

(4) Disposal of hazardous explosive materials, military munitions or explosive devices that require immediate action to prevent endangerment of human health, public safety, property or the environment and that are excluded from the requirement to obtain a hazardous waste permit pursuant to paragraph (D)(1)(d) of rule 3745-50-45 of the Administrative Code.

(5) Recognized training in the use of fire extinguishers for commercial or industrial fire prevention.

Fires allowed by paragraphs (B)(1), (B)(2), (B)(3) and (B)(5) of this rule shall not be used for waste disposal purposes, and shall be of the

minimum size sufficient for their intended purpose; the fuel shall be chosen to minimize the generation and emission of air contaminants.
(C) Open burning shall be allowed for the following purposes upon **receipt of written permission** from the Ohio EPA, in accordance with paragraph (A) of rule 3745-19-05 of the Administrative Code, provided that any conditions specified in the permission are followed:

(1) Disposal of ignitable or explosive materials where the Ohio EPA determines that there is no practical alternate method of disposal, excluding those materials identified in paragraph (B)(4) of this rule;

(2) Instruction in methods of fire fighting or for research in the control of fire as recognized by the State fire marshal division of the Ohio department of commerce and the guidelines set forth in the National Fire Protection Association's (NFPA) publication 1403: "Standard on Live Fire Training Evolutions, Chapter 4, Acquired Structures", provided that the application required in paragraph (A)(1) of rule 3745-19-05 is submitted by the commercial or public entity responsible for the instruction;

(3) In emergency or other extraordinary circumstances for any purpose determined to be necessary by the director and performed as identified in the appendix of rule 3745-19-03 of the Administrative Code. If deemed necessary, the open burning may be authorized with prior oral approval by the director followed by the issuance of a written permission to open burn within seven working days of the oral approval;

(4) Disposal of land clearing waste generated on the premises if the following conditions are observed:

(a) The fire is set only when atmospheric conditions will readily dissipate contaminants;

(b) The fire does not create a visibility hazard on roadways, railroad tracks, or air fields;

(c) The fire is located at a point on the premises no less than one thousand feet from any inhabited building not located on said premises; and

(d) An air curtain destructor or other device or method determined by the director to be at least as effective is used to curtail release of air contaminants;

(5) Recognized horticultural, silvicultural, range, or wildlife management practices; and

(6) Fires and/or pyrotechnic effects, for purposes other than waste disposal, set as part of commercial film-making or video production activities for motion pictures and television.

(D) Open burning shall be allowed for the prevention or control of disease or pests with written or verbal verification to the Ohio EPA from the local health department, cooperative extension service, Ohio department of agriculture, or U.S. department of agriculture, that open burning is the only appropriate disposal method.

Effective: 07/07/2006 R.C. 119.032 review dates: 01/20/2006 and 07/07/2011 CERTIFIED ELECTRONICALLY Certification 06/27/2006 Date Promulgated Under: 119.03