

INSTRUCTOR GUIDE

RINGS OF FIRE

Tire Fire Prevention and Suppression

Lesson Plan 05 IGNITION SOURCES

<u>TOPIC:</u>	Historic Sources of Ignition
<u>LEVEL:</u>	I
<u>TIME:</u>	30 Minutes
<u>BEHAVIORIAL OBJECTIVE:</u>	
Condition:	Complete evaluation with 70% accuracy
Behavior:	The student will . . . <ol style="list-style-type: none">1. Further define the extent of the waste tire problem.2. Identify historic sources of ignition.
Standard:	According to the referenced text
<u>REFERENCES:</u>	Slaughter, Rodney. "RINGS OF FIRE: Tire Fire Prevention and Suppression" California State Fire Marshal, June 2004.
<u>MATERIALS NEEDED:</u>	PC projector, projection screen, VCR, multimedia slide show on CD-ROM, speakers.
<u>PREPARATION:</u>	Any discussion of fire prevention for waste tire piles should be prefaced within the historical context of tire fires around North America. Arson is the leading cause of tire fires. When enforcement of state and local laws gets the attention of waste tire pile owners- the piles suddenly catch on fire. Tire piles are also an attractive target for juvenile arsonists. Other sources of ignition include lightning strikes, grass and brush fires, and ignition sources such as welding or smoking in and around the tire pile.

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PRESENTATION	APPLICATION
<p>I. Objective</p> <ul style="list-style-type: none">A. Further define the extent of the waste tire problem.B. Identify historic sources of ignition. <p>II. Sources</p> <ul style="list-style-type: none">A. Wildland firesB. Lightening StrikesC. Accidental StartsD. Arson <p>III. Sources</p> <ul style="list-style-type: none">A. Wildland Fires <p>1. 1978 grass fire from the foothills swept through Roseville, California destroying 750,000 tires.</p> <p>2. But light flashy fuels like grass fires do not always ignite tires, it usually takes a heavier fuel exposure for a longer period of time</p>	<p>From the Main Menu click on Fire Prevention. At the Fire Prevention Menu click on Ignition Sources button.</p> <p>Sources 01 Objective</p> <p>Ignition Sources Slide 02</p> <p>Ignition Sources Slide 03 Wildland</p> <p>Ignition Sources Slide 04 Wildland 1</p>

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PRESENTATION	APPLICATION
<p>B. Lightening Strikes</p> <ol style="list-style-type: none"><li>1. In 1999 seven million tires in Westley, California<li>2. Tire mountain in Colorado had two lightening strike fires <p>C. Accidental Starts</p> <ol style="list-style-type: none"><li>1. In 1990 30,000 tires on a site of 750,000 caught on fire<li>2. The fire started in a storage shed that the tire pile was stored against<li>3. over a million gallons of water were used to extinguish the blaze <p>D. Arson is the leading cause of tire fires</p> <ol style="list-style-type: none"><li>1. In 1990 the Hagersville, Ontario fire of 12 million tires was started by teens as a Halloween prank<li>2. Other arson related fires include the Inwood, West Virginia fire started by the security officer who happened to be a volunteer firefighter <p>E. Between 1996 – 1998-- 59 tire fires were reported across the country involving approximately 20 million tires stored outdoors</p>	<p>Ignition Sources Slide 05 Lightning</p> <p>Ignition Sources Slide 06 Accidental</p> <p>Ignition Sources Slide 07 Arson</p> <p>Ignition Sources Slide 08 Fire History</p>

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<p>F. Tire Fire History Table</p> <p>IV. Six signs that company is in trouble</p> <p>A. Experience has shown that there are a number of indicators or a combination of indicators of an impending tire fire</p> <p>B. There are historic cases of government crackdowns on outdoor tire storage facilities where the aggrieved owners have opted to burn their piles instead of addressing the notice of correction</p> <p>C. You can anticipate a potential tire fire catastrophe by closely monitoring the waste tire owners and operators</p> <p>D. Six signs that a tire company is in trouble</p> <ol style="list-style-type: none">1. Increasing Piles in height, width, and volume.2. Permit/code violations- cited by inspection/enforcement authority.3. Change in ownership – a shell game for owner liability.4. Company files for bankruptcy – can they afford to clean-up the pile?5. High personnel turnover – inexperienced new employees.6. Loss of permit – due to code violations	<p>Ignition Sources Slide 09 Fire History 2</p> <p>Instructors Note: Highlight the historic tire fires of 5 million or more and discuss table with class</p> <p>Ignition Sources Slide 10 Signs of Trouble</p>

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	<p>Instructors Note: Using a dry erase board or flip chart have your class design their own code for the safe outdoor storage of tires. Identify as many fire prevention requirements as possible.</p> <p>Instructors Note: Give summary and then read evaluation questions</p> <p>Ignition Sources Slide 11 Questions</p>

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SUMMARY:

This section outlines the traditional sources of ignition in a tire pile. By being aware of the information presented here, you can appreciate the circumstances that could lead to a tire fire and be able to develop preventative measures it before it begins. We'll then be able to compare our class developed code against those developed nationally and by the State of California.

EVALUATION:

1. What is the typical source of ignition in tire piles?

Answer: Arson

2. How can you protect tire piles from lightening strikes?

Answer: NFPA has a standard on lightening rods

3. What measures should be taken to prevent accidental starts?

Answer: Remove sources of ignition along with any combustible material from the vicinity of the tire pile.

ASSIGNMENT:

Read the Fire Prevention section of "Rings of Fire."