Fire departments around the nation face many new personnel issues every year and attempting to manage a growing diverse workforce is as challenging as ever. There are some problems in the fire service that are recurring events and have been happening for many years and still have not been resolved. Usage of drugs and alcohol is a
prevalent problem in the fire service with incidents happening both on duty and off duty. While there have been numerous attempts to curb the abuse within the fire service there still needs to be a stronger push for not only correction, but prevention as well. Creating a safe atmosphere for all employees is a top goal of any personnel manager in an organization and making that environment free of drug and alcohol usage is the most important step in the process.

Some fire departments are not lucky enough to have progressive thinking and do not take the steps necessary to prevent tragic deaths due to drug and alcohol usage. Interviewing the Human Resource Manager of Beavercreek Township, Trish Gustafson, (937-426-1213) I learned that the Township has a zero tolerance policy for on duty usage. Included in the policy is a random drug and alcohol testing clause. This clause explains that 25% of the fire department will be randomly drug and or alcohol tested throughout the year. This policy was put in place due to an incident in 2002 that claimed the life of an off duty Beavercreek firefighter. At that point in time, the department was still transitioning from a volunteer

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1 Beavercreek Township
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department to a combination department with the majority of the workforce becoming paid employees. When randomly testing the employees, an alcohol level of .03 or less is acceptable but any detectable amount of drugs is grounds for disciplinary actions. The comprehensive policy put in place by the Human Resource Manager was to protect the employees and assure the safety of the community. Some fire departments however have not taken the necessary steps to protect the employees or the citizens of the community. The New Ulm volunteer fire department in Minnesota may soon see the same tragic results except alcohol will be the cause of the predicament. The New Ulm, Minnesota Fire Department's request was approved on a 4-1 vote by the city council to allow alcohol in the fire station. “They’re really leaving it up to the individual to determine if they are able to respond to calls.” "That's one of my main concerns that there are no limitations, and who decides when a fireman is impaired," Hippert said. This will possibly have serious concerns that a fire department employee may be injured while responding to emergency calls. The public will also be in jeopardy by being serviced by employees who are possibly intoxicated. Ronald J. Caillier, 47, pleaded

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5 Larson, Ron
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guilty in July to aggravated vehicular homicide in the May 22 crash that killed Anndee Huber as the two were headed to a grass fire. According to court documents, Caillier had a blood-alcohol level of 0.16 percent following the tanker truck crash. Wyoming's legal limit is 0.08. Prosecutors said he had left a bar about 15 minutes before his pager went off. The concern about how many alcoholic beverages could be consumed by an individual and still allow them to function properly was raised.

According to Web MD:

A blood alcohol test measures the amount of alcohol (ethanol) in your body. Alcohol is quickly absorbed into the blood and can be measured within minutes of having an alcoholic drink. The amount of alcohol in the blood reaches its highest level about an hour after drinking. However, food in the stomach may increase the amount of time it takes for the blood alcohol to reach its highest level. Having any amount of alcohol in the blood can cause poor judgment and slowed reflexes.

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7 Associated Press
8 Associated Press
9 Associated Press
10 Web MD
<table>
<thead>
<tr>
<th>Number of drinks per hour*</th>
<th>Estimated blood alcohol concentration (BAC)†</th>
<th>Observable effects†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2</td>
<td>0.02</td>
<td>Relaxation, slight body warmth</td>
</tr>
<tr>
<td>3</td>
<td>0.05</td>
<td>Sedation, slowed reaction time</td>
</tr>
<tr>
<td>6</td>
<td>0.10</td>
<td>Slurred speech, poor coordination, slowed thinking</td>
</tr>
<tr>
<td>12</td>
<td>0.20</td>
<td>Difficulty walking, double vision, nausea, vomiting</td>
</tr>
<tr>
<td>18</td>
<td>0.30</td>
<td>May pass out, tremors, memory loss, cool body temperature</td>
</tr>
<tr>
<td>24</td>
<td>0.40</td>
<td>Difficulty breathing, coma, possible death</td>
</tr>
<tr>
<td>30</td>
<td>0.50 and greater</td>
<td>Death</td>
</tr>
</tbody>
</table>

*1 drink = 1.5 fl oz liquor (80 proof) or one glass [5 fl oz] wine or one glass [12 fl oz] beer.

†BAC and the effects of drinking alcohol vary from person to person and depend upon body weight, the amount of food eaten while drinking, and each person's ability to tolerate alcohol.

A breath alcohol test is an estimate of your blood alcohol concentration (BAC). The test measures the
amount of alcohol in the air that you breathe out (exhale)\textsuperscript{11}.

Some of the factors deciding how the alcohol affects the individual drinker are the number of drinks per hour. As you increase the number of drinks per hour, your blood alcohol level steadily increases. The strength of alcohol (proof or percentage) in the drink will determine the alcohol quantity being consumed. Weight is also a huge contributor because the more you weigh, the more water is present in your body, which dilutes the alcohol and lowers the blood alcohol level, which is the reason that the heavier a person weighs, the more alcoholic beverages they can consume. Women's bodies usually have less water and more fat than men's bodies. Alcohol does not go into fat cells as well as other cells, so women tend to keep more alcohol in their blood than men do. The blood alcohol test measures only the amount of alcohol in the blood at the time the sample is taken. It does not show how long you have been drinking or whether you have an alcohol use problem. The amount of alcohol in your blood reaches its highest level about 60 minutes after drinking\textsuperscript{12}. However, food in your stomach may increase the amount of time it

\textsuperscript{11} Web MD
\textsuperscript{12} Web MD
takes for the blood alcohol to reach its highest level. Most of the alcohol is broken down in the liver. The rest of it is passed out of your body in urine and your exhaled breath.

According to the University of Oklahoma Police Department, if a 180 pound male consumes four alcoholic beverages over a period of 2 hours the male could have a blood alcohol content of .04 to .08 which would border the legal limit to operate a vehicle\textsuperscript{13}. A female weighing 140 pounds would need only 2 to 3 alcoholic beverages to reach a legally intoxicated level\textsuperscript{14}.

Paul J. Cahill of the Boston Fire Department had a blood alcohol level of .27 – more than three times the legal alcohol limit for motorists – when he was killed fighting the fire at Tai Ho Restaurant on Centre Street in West Roxbury, the state Medical Examiner's toxicology report showed as part of the autopsy\textsuperscript{15}. The fire broke out at 21:04 hours and this would indicate one of three conclusions. First, the firefighter could have started his shift at 1900 hours or 2000 hours and might have reported to work intoxicated. Second, he could have been consuming alcoholic

\textsuperscript{13} Hamilton, Richard

\textsuperscript{14} Hamilton, Richard

\textsuperscript{15} Johnson, O’Ryan
beverages while on duty and it would be unknown how long or how many beverages he consumed while on duty that evening. The final conclusion and the least likely of the three would be that he reported to work in the morning at 0700, 0800, or when ever the on coming duty shift reports, and the firefighter had been burning off the alcohol the entire day and was still drunk that late at night. The firefighter would have to have been unbelievably intoxicated for this conclusion to be drawn and is thus not realistic so the other conclusions should be considered. According to Web MD:

The time that passes between drinking alcohol and collecting the blood or breath sample affects test results. The body continues to break down alcohol at a steady rate after drinking. Therefore, the amount of alcohol you drink can be estimated by knowing how much alcohol is present in your blood or breath and how much time has passed since you had a drink. In general, your body is able to break down about one drink per hour\(^\text{16}\).

The final drug that needs to be considered for elimination to increase the safety of personnel in the fire

\(^{16}\text{Web MD}\)
department is nicotine. Many people do not consider nicotine in the form of cigarettes, cigars, or chew to be a drug, or a concern to the health, wellness, and safety of fellow firefighters. The rich history of the fire service displays firefighters smoking giant cigars after battling a roaring house fire or casually smoking a cigarette with fellow “brothers” while awaiting the next emergency calls.

Smoking is the number one cause of cardiac disease in the United States. Approximately 20% of the United States are smokers and those smokers are 2 to 4 times more likely to suffer from coronary heart disease than non smokers. Sudden cardiac arrests have been listed as the number one killer of firefighters in the Line Of Duty Death reports that are issued.

What can a fire department do to provide a smooth transition for positive change in the alcohol and tobacco usage problem in there respective fire departments? First, a zero tolerance policy needs to be adopted. There should be a designated time limit for stopping the consumption of alcohol previous to the employees shift starting to provide adequate time to allow the alcohol to be eliminated from the body. This would only work for a low to moderate

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17 American Heart Association
consumption of beverages. If large amounts of alcohol are consumed, it may not be possible to eliminate all the alcohol from the employees system. No employee should arrive at work with any level of alcohol in their blood system or any smell on their breath. The second step the fire department can take would be to establish random alcohol testing. The testing should be completely random and there should not be any maximum or minimum number of employees to be tested. The selection of personnel should be done by a computer generated program that randomly selects the quantity of personnel to be tested and who those people are. The last thing that a department can do to curb the tobacco usage policy is to prohibit the usage of tobacco products at the fire stations and while on duty. This policy will most likely offend the greatest number of employees and should be closely monitored so as to not destroy the morale of the firefighters. Both tobacco and alcohol are very addicting substances and it is not easy to just quit using them without assistance. Programs should be put in place to assist the firefighters with either stopping usage altogether or gaining control of the addiction so that they may better improve their overall health. These changes will most likely be met with discontent, pessimism, and anger by some employees. It is
imperative to explain to the employees that these changes are to provide a safe working environment for the employees and for the citizens being serviced.

The fire service has gained a reputation over the past few decades for its employees acquiring substance abuse problems. The statistics for injuries and deaths due to this abuse has not decreased over the years and is becoming out of control. Taking the steps to assure the safety of the fire department employees and the citizens of the community should be the number one priority of the fire chief. Instituting new substance usage policies will be met with resistance, but education combined with the implementation of the new policies should provide the necessary support for overall cooperation of the fire department employees.

References


Beavercreek Township Fire Department Interview conducted with Trish Gustafson on November 09, 2007.


