

COMP CONTROL[®]

The Official KMIT Member Resource

CONFINED SPACES

Confined spaces can be categorized generally as those with open tops and with a depth that will restrict the natural movement of air, and enclosed spaces with very limited openings for entry. In either of these cases, the space may contain mechanical equipment with moving parts. Any combination of these parameters will change the nature of the hazards encountered. Degreaser, pits, and certain types of storage tanks may be classified as open topped confined spaces that usually contain no moving parts. However, gases that are heavier than air (butane, propane, and other hydrocarbons) remain in depressions and will flow to low points where they are difficult to remove. Open topped water tanks that appear harmless may develop toxic atmospheres such as hydrogen sulfide from the vaporization of contaminated water. Therefore, these gases (heavier than air) are a primary concern when entry into such a confined space is being planned. Other hazards may develop due to the work performed in the confined space or because of corrosive residues that accelerate the decompositions of scaffolding supports and electrical components.

Confined spaces such as sewers, casings, tanks, silos, vaults, and compartments of ships usually have limited access. The problems arising in these areas are similar to those that occur in open topped confined spaces. However the limited access increases the risk of injury. Gases which are heavier than air such as carbon dioxide and propane, may lie in a tank or vault for hours or even days after the containers have been opened. Because some gases are odorless, the hazard may be overlooked with fatal results. Gases that are lighter than air may also be trapped within an enclosed type confined space, especially those with access from the bottom or side.



The most hazardous kind of confined space is the type that combines limited access and mechanical devices. All the hazards of open top and limited access confined spaces may be present together with the additional hazard of moving parts. Digester and boilers usually contain power-driven equipment which, unless properly isolated, may be inadvertently activated after entry. Such equipment may also contain physical hazards that further complicate the work environment and the entry and exist process.

Reasons for Entering Confined Spaces

Entering a confined space as part of the industrial activity may be done for various reasons. It is done usually to perform a necessary function, such as inspection, repair, maintenance (cleaning or painting), or similar operations which would be an infrequent or irregular function of the total industrial activity.

Entry may also be made during new construction. Potential hazards should be easier to recognize during construction since the confined space has not been used.

A final and most important reason for entry would be emergency rescue. This, and all other reasons for entry, must be well planned before initial entry is made and the hazards must be thoroughly reviewed. The standby person and all rescue personnel should be aware of the structural design of the space, emergency exit procedures, and life support systems required.

Confined Space Hazards

1. Oxygen-Deficient Atmospheres:

The normal atmosphere is composed of approximately 21% oxygen and 79% nitrogen. An atmosphere containing less than 19.5% oxygen shall be considered oxygen-deficient. The oxygen level inside a confined space may be decreased as the result of either consumption or displacement.

(Story continued on page 4)

**Kansas Municipal Insurance Trust
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CompControl is a publication of the League of Kansas Municipalities and the Kansas Municipal Insurance Trust for the purposes of educating and informing cities about loss control methods and risk management. If you have any questions concerning KMIT workers' compensation or risk management that you would like to see answered in this newsletter, please direct those inquiries to:

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Wendy Flowers
Editor

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Letter from the Pool Administrator

Dear KMIT Members,

“Our Country has been attacked!” I never thought I would hear those words in my lifetime, and it frightens and worries me that my children and grandchildren may see REAL WAR in their lives. These are times that make “everyday life” seem almost irrelevant. But, we just can’t let that happen. The whole point of even the threat of war is that our country, and our daily lives and missions, ARE important. What we do, and who we serve daily, IS important and DOES matter.

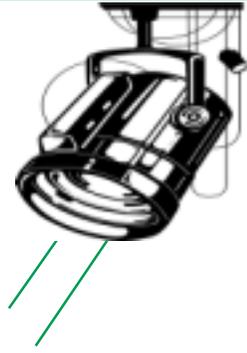
Our job is to serve the citizens of our Kansas communities. They need us. They depend on us. Ours is a worthwhile mission. We are public servants. We do honorable and meaningful work, and it must go on, and go on in an Excellent Fashion.

And, KMIT must, and will, go on—in its mission to help the employees of Kansas cities be safe in their work, and to take care of them when they do get hurt. We will continue to pursue that mission in the excellent tradition which has been established over this first eight years of KMIT.

It’s time to say good-bye to several very dedicated KMIT Trustees who are choosing not to continue on the Board following the annual meeting. Among that group is current KMIT President Mark Arbuthnot of Abilene. Mark has served as a Trustee for seven of the eight years of KMIT’s existence, and was an original “bricklayer” of the pool’s foundation. Mark’s contribution to Kansas cities has been enormous, and he will be missed. Thank you very much, Mark; your work is appreciated. At this writing, we’re not sure who else is “retiring” from the Board, but I’ll let you know, and who is coming on, as well, next time.

The 2001 Safety and Health Conference is coming up soon. This year’s conference is in Overland Park, on October 15-19. I have it on good authority that a lot of the public sector sessions will be of great benefit to cities. Check it out online at <http://www.hr.state.ks.us/home-html/shagenda.htm>.

Don Osenbaugh



Spotlight
on
Safety Olympics

The Kansas Municipal Insurance Trust's "Safety Olympics" were introduced in 1996 to promote safety in the workplace. Cities participating in this program are taking safety to the next level. There are three levels of achievement - gold, silver, and bronze. A combination of written safety policies, safety training provided to employees, and safe working environments are taken into consideration

as guidelines for qualification. IMA Risk Management staff conducts annual safety inspections that help determine a city's progress toward achieving recognition. All cities participating are presented with awards during the annual KMIT Membership Meeting and Breakfast held in October. KMIT would like to congratulate this year's "Safety Olympic" winners!

GOLD STAR

Abilene
Atchison
Baldwin City
Baxter Springs
Cheney
Derby
De Soto
Dodge City
Ft. Scott
Glasco
Goodland
Hiawatha
Kingman
Kinsley
Maize
Minneapolis
Mission
Osage City
Oswego
Park City



Ransom
Russell
Sedgwick
Tescott
Turon
Ulysses
Valley Center
Wamego
Wellington



SILVER STAR

Hosington
Newton
Princeton



BRONZE STAR

Altamont
Andale
Andover
Basehor
Bel Aire



Bonner Springs
Brewster
Centralia
Cherryvale
Fowler
Frankfort
Galena
Hill City
Hillsboro
Holcomb
Independence
Johnson City
Lucas
McFarland
Moline
Montezuma
Olpe
Paola
Tonganoxie
Walton



There are a number of processes which consume oxygen in a confined space. Oxygen is consumed during combustion of flammable materials, as in welding, cutting or brazing. A more subtle consumption of oxygen occurs during bacterial action, as in the fermentation process. Oxygen can also be consumed during chemical reactions such as in the formation of rust on the exposed surfaces of a confined space. The number of people working in a confined space and the amount of physical activity can also influence oxygen consumption. Oxygen levels can also be reduced as the result of oxygen displacement by other gases.

2. Flammable Atmospheres:

Flammable Atmospheres are generally the result of flammable gases, vapors, dust mixed in certain concentrations with air, or an oxygen-enriched atmosphere.

Oxygen-enriched atmospheres are those atmospheres which contain an oxygen concentration greater than 22%. An oxygen-enriched atmosphere will cause flammable materials such as clothing and hair to burn violently when ignited.

Combustible gases or vapors can accumulate within a confined space when there is inadequate ventilation. Gases that are heavier than air will accumulate in the low levels of a confined space. Therefore, it is especially important that atmospheric tests be conducted near the bottom of all confined spaces.

3. Toxic Atmospheres:

Toxic atmospheres may be present within a confined space as the result of one or more of the following:

- The Product Stored in the Confined Space

When a product is stored in a confined space, the product can be absorbed by the walls and give off toxic vapors when removed or when cleaning the residual material. The product can also produce toxic vapors which will remain in the atmosphere due to poor ventilation.

- The Work Being Conducted in the Confined Space

Toxic atmospheres can be generated as the result of work being conducted inside the confined space. Examples of such work include: welding or brazing with materials capable of producing toxic vapors, painting, scraping, sanding, etc. Many of the solvents used for cleaning and/or degreasing produce highly toxic vapors.

- Areas Adjacent to the Confined Space

Toxic fumes produced by processes near the confined space may enter and accumulate in the confined space. For example, if the confined space is lower than the adjacent area and the toxic fume is heavier than air, the toxic fume may "settle" into the confined space.



4. Mechanical and Physical Hazards:

Problems such as rotating or moving mechanical parts or energy sources can create hazards within a confined space. All rotating or moving equipment such as pumps, process lines, electrical sources, etc., within a confined space must be identified.

Physical factors such as heat, cold, noise, vibration, and fatigue can contribute to accidents. These factors must be evaluated for all confined spaces.

Communication

Communication between the worker inside and the standby person outside is of utmost importance. If the worker should suddenly feel distressed and not be able to summon help, an injury could become a fatality. Frequently, the body positions that are assumed in a confined space make it difficult for the standby person to detect an unconscious worker.

Rescue

Rescue procedures should be established before entry and should be specific for each type of confined space. A standby person should be assigned for each entry where warranted. The standby person should be equipped with rescue equipment. The rescue procedures should be practiced frequently enough to provide a level of proficiency that eliminates life-threatening rescue attempts and ensures an efficient and calm response to an emergency.



Claims

2001 Frequency and Cost Analysis—Top 5 1/1/01 through 9/21/01

By Job Classification

<u>Classification</u>	<u>Frequency</u>	<u>Claim Costs</u>
Police Officers & Drivers	76	\$ 61,157
Waterworks Operators/Drivers	55	\$ 52,202
Street/Road Construction	53	\$102,761
Firefighters & Drivers	47	\$ 97,122
Garbage Collection	31	\$ 21,024

By Accident Type

<u>Type</u>	<u>Frequency</u>	<u>Claim Costs</u>
Fall or Slip Injury	93	\$107,663
Strain or Injury by lifting, pushing, carrying, etc.	77	\$253,216
Miscellaneous Cause, animal, insect, robbery, etc.	62	\$ 31,370
Cut, Puncture, or Scrape	47	\$ 4,363
Occupational Hazards	45	\$ 12,814

By Part of Body

<u>Part of Body</u>	<u>Frequency</u>	<u>Claim Costs</u>
Low Back Area	51	\$ 86,780
Knee	39	\$146,532
Fingers	35	\$ 3,076
Upper Arm	26	\$ 91,219
Hand	24	\$ 8,737

Note—The above figures are based on claims reported as of 9/21/01. Amounts listed for claim costs are amounts incurred to date.

Your Pool in Action

Member Notes

Calendar of Events

October

- 6-9 League Annual Conference, *Wichita*
- 6 KMIT Golf Tournament - Sim Park Golf Course, *Wichita*
- 6 Municipal Leadership Academy - Supervisors Workshop and Mini Governing Institute, *Wichita*
- 8 KMIT Annual Meeting @ LKM Conference, *Wichita*
- 8 KMIT Board Meeting, *Wichita*

November

- 1 LKM Regional Supper, *Clay Center*
- 2 Municipal Leadership Academy - Sexual Harassment, *Goodland*
- 3 MLA - Sexual Harassment, *Junction City*
- 7 LKM Regional Supper, *Garden City*
- 8 LKM Regional Supper, *Hill City*
- 9 MLA - Sexual Harassment, *Atchison*
- 13 Regional Supper, *Fort Scott*
- 22-23 LKM/KMIT Office Closed for Holiday
- 28 LKM Regional Supper, *Lenexa*
- 29 LKM Regional Supper, *El Dorado*
- 30 KMIT Board Meeting, *Russell*

December

- 1 MLA - Technology Issues, *Lawrence*
- 13 League Governing Body, *Topeka*
- 14 League Governing Body Meeting/KAC Joint Meeting, *Topeka*
- 24 LKM/KMIT Office Closed from noon to 5:00 PM for Holiday
- 25 LKM/KMIT Office Closed for Holiday

Safety *success*

The following cities had not reported any claims in 2001 as of 9/25/01.

Allen	Grainfield	Ozawkie
Altamont	Greeley	Princeton
Andale	Grenola	Ransom
Bel Aire	Jetmore	Roeland Park
Beverly	Johnson City	Sedan
Bird City	Lenora	Sedgwick
Bison	LKM	Spearville
Brewster	Lucas	Tipton
Chautauqua	McFarland	Tonganoxie
Cheney	Melvern	Treece
Conway Springs	Moline	Turon
Cullison	Montezuma	Wakefield
Esbon	Mound City	Walton
Ford	Ogden	
Galena	Oskaloosa	
Glen Elder	Oswego	

KMIT

Revenues & Expenses
August 31, 2001

<u>Combined Assets</u>		
Cash in Bank		56,273
Premiums Outstanding		
Investments		2,012,769
Total Assets		2,069,042
<u>Combined Liabilities & Equity</u>		
Claims and Accrued Expences Outstanding		(601,982)
Reserved for Losses		618,294
Incurred But Not Reported (IBNR)		1,580,902
Total Liabilities		1,597,214
KMIT Statutory Fund Balance		471,828
Total Liabilities and Equity		2,069,042