

# THE RHA REVIEW

ROUTE TO:

Vol. 7, No. 2, First Quarter 2001

A publication of Robert Hughes Associates, Inc., an international litigation support, actuarial, risk management and insurance consulting company.

## A RISK MANAGEMENT APPROACH TO LAND-USE PLANNING

By Joseph J. Launie, Ph.D., CPCU, FACFE

Many firms involved in highly technical fields have recently moved or explored the possibility of moving their offices and research laboratories to suburban and even rural areas. Though the recent period of high growth in the economy appears to be easing, the demand for highly qualified technical people remains high. Often a rural campus-like setting can be an important component of the process of creating a work environment that is attractive and enhances the quality of life for employees. High central city rental costs, lack of parking and shortages of suitable urban sites have also contributed to the growth in suburban development.

Relocation outside the urban core creates a number of potential problems for risk managers, not all of which are immediately apparent. It usually does not take long to discover that a pastrami sandwich is not available at three o'clock in the morning. In some areas, it may not be available at any hour of the day. Potential land use problems may be more subtle.

As development spreads out beyond the established suburban boundaries in many areas of the country,

it often abuts or even intrudes into wooded or forested areas. In Orange County, California, for example, there are plans to place a strip mall of retail stores immediately adjacent to the Cleveland National Forest. Without careful planning, this type of development may result in dangers much

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more serious than raccoons raiding the trash bins.

When a research laboratory or similar facility moves into a rural area, the top scientists, engineers and executives often find home sites which range from rural to remote. The concerns of the risk manager should extend beyond the plant or laboratory site to include the homes of the key personnel.

The most serious problem encountered in these rural environments is wildfires. Forest service personnel and fire protection professionals speak of urban incursions into the forests. As

residential areas spread farther from settled urban areas, these incursions occur with more frequency. Industrial parks and office complexes are moving into more-wooded areas. Traditional land-use planning does not look at this growth in the manner in which a trained risk manager or property underwriter would.

In traditional risk management, the first step in evaluating the danger from wildfires is to identify and measure the extent of the risk. Anecdotal evidence indicates that the problem is both real and immediate. Recently a “controlled burn” in New Mexico evolved into an uncontrolled wildfire that led to substantial evacuation in suburban and urban areas. The United States Atomic Energy research laboratories were almost overrun by the fire. Several outbuildings and support structures were lost, and vital records and equipment were placed in danger. Fortunately, no lives were lost.

During the Oakland Hills fire in 1991, the community was not as lucky. The Oakland Hills before the fire was a suburban community, with hilly, heavily wooded terrain. Although single-family homes with yard and garden space predominated, the population density was not light. The area has breathtaking views of the San Francisco Bay and the city itself. Part of the charm of the area was found in its meandering narrow roads, many with trees forming a leafy canopy that sometimes resembled a verdant roof.

**(PLANNING, continued inside)**

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**(PLANNING, continued from cover)**

When a fast-moving wildfire swept through Oakland Hills, the narrow meandering roads impeded the movement of fire equipment into the area and became death traps for residents attempting to evacuate. The multiple-death toll of that tragic fire included both a police officer and a fire official who died attempting to save people trapped in their cars.

A look back at history shows that wildfires have resulted in some of the largest death tolls in American recorded history. The 10 most tragic multiple-death fires in United States history are shown in the table inset.

Four of the 10 catastrophes shown in this table were marine-related. The Texas City disaster in 1947 was caused when the SS *Grandcamp's* load of ammonium nitrate fertilizer exploded, destroying the adjacent Monsanto plant and most of Texas City. After maritime disasters, wildfires are the second-leading cause of catastrophic multiple-death fires.

Although the most recent of these three disasters occurred in 1918, it is poor risk management to dismiss a cause of loss simply because it has not happened lately. Poor planning and bad luck can lead to a really bad day at any time.

The Peshtigo, Wisconsin, forest fire, which killed 1,152 people, was overshadowed in the newspapers of the day by the Chicago fire, which occurred the following day. Many modern school children can recite the tale that Mrs. O'Leary's cow kicked over the lantern and burned down the city. Though it is doubtful that this chain of causation is

accurate, it does make a great story. The plight of the doomed citizens of Peshtigo, who, when trapped by the fast-moving forest fire, sought refuge in a stream, only to have the immense heat of the fire evaporate the water, remains relatively obscure.

Firefighting equipment and communication and transportation systems are much better today than 80 or 100 years ago. Can the risk manager then turn the page and decide that forest fire catastrophes are only a shadowy specter from the past, banished by modern technology? Perhaps not. Today's development trends, which are moving more and more people into a bucolic rural environment, may actually be placing more people in harm's way.

only one way in — usually a single road, which will more likely be relatively narrow and winding than an arrow-straight urban-type four-lane divided highway. This single way in is of course the only way out, should one desire to swiftly vacate the premises.

Typical land-use planning in this box canyon, or any other semirural environment, is focused upon lot size. Rules may be set that allow one house per acre or, in more rural areas, one house per five acres. If the canyon were represented by a ceramic-tile counter top, the focus would be on the squares of tile. Unfortunately, the focus should be on the areas of grout between the tiles.

From a risk management standpoint it does not seem to be a good plan to place more people into the canyon than you can get out if necessary. The effective constraint on development in our hypothetical box canyon should not be the lot size and the acreage in the canyon but the effective capacity of the road system to evacuate the residents quickly and safely.

The concept of capacity, when applied to isolated rural areas such as box canyons, does not appear in the literature of land-use planning. Risk managers are very familiar with the room-capacity plaques found on the walls of most private meeting rooms. These room capacities have been established by fire authorities, usually the fire marshal, based upon the number of people who can be safely evacuated from that room in the event of a fire or other emergency. Should not the same logic be applied to box canyons and similar areas with topological features that restrict egress in one manner or

**(PLANNING, cont'd. on opposite pg.)**

THE 10 MOST TRAGIC MULTIPLE-DEATH FIRES IN U.S. HISTORY

Date	Location	Deaths
Apr. 27, 1865	Mississippi River, SS <i>Sultana</i> steamship	1,547
Oct. 8, 1871	Peshtigo, WI, forest fire	1,152
Jun. 15, 1904	New York, NY, <i>General Slocum</i> steamship	1,030
Dec. 30, 1903	Chicago, IL, Iroquois Theater	602
Oct. 12, 1918	Cloquet, MN, forest fire	559
Nov. 28, 1942	Boston, MA, Cocoanut Grove Night Club	492
Apr. 16, 1947	Texas City, TX, SS <i>Grandcamp</i> and Monsanto Chemical Co. plant	468
Sep. 1, 1894	Hinckley, MN, forest fire	418
Dec. 8, 1907	Mononghia, WV, coal mine explosion	361
Jun. 30, 1900	Hoboken, NJ, North German Lloyd steamship line	326

Source: National Fire Protection Association

In the worst-case scenario, those people could include the firm's employees if a facility is located in a wooded environment, or the firm's key personnel and executives if their homes are in relatively remote and thickly wooded locations. The natural desire for peace and privacy has led to some of the most expensive and sought-after residential real estate being subject to the wildfire peril.

Municipal risk managers may run the risk of land-use decisions being questioned after the fact if a bad result occurs. Take, for example, the case of a box canyon adjacent to or even protruding into a heavily wooded national forest. The distinguishing attribute of a box canyon is that there is

(**PLANNING**, cont'd. from opposite pg.)

another?

In residential areas, land-use rules that restrict the number of homes per acre are ineffective in limiting the number of households or people per acre. In many areas, large homes and larger mortgage payments may result in the appearance of permanent "guests" who actually are residents in illegal studio or apartment units. Even-larger houses may require full-time maids, gardeners, grooms and other domestic employees who reside on the premises. These are perfectly normal developments, but they do increase the number of persons located in the canyon who may have to be evacuated.

Fire professionals often speak of sheltering in place as a preferred alternative to an attempt to evacuate in the event of a wildfire. In the case of a residence, the shelter-in-place strategy should be selected only after careful and preferably professional evaluation of the ability of the house to survive the first wave of the fire. The premises should have a defensible perimeter with sufficient clear space to keep the major thrust of the fire at bay. The residents should be capable of withstanding the heat, smoke and sheer terror of the firestorm, both physically and psychologically. On a clear, sunny summer day it is one thing to say you

are going to shelter in place. It is quite another thing to stand your ground when the embers start flying through the air and the smoke turns the day into night. Many people will take one look and then jump into the car and try to get out of Dodge City.

Many businesses have a building evacuation plan. Most of these plans end up with the employees on the sidewalk safely away from the building.

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***"Effective pre-fire planning can reduce the consequences of a wildfire upon a particular firm and its employees."***

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The only problem with such a plan is that in an area threatened by a wildfire, the employee is in greater danger outside the building than in it.

For a business establishment, it is possible to create a fire-safe building, create the clear space around the structure and establish a safe haven for the employees to shelter in place until the fire has passed. The employees are likely to have different plans. First, most fire-safe building plans leave the employees' cars in the parking lots outside the ring of safety. The

Americans' love affair with the automobile is very real. Few employees will calmly sip a coke in their fire shelter while their beloved SUV turns into a bonfire. When the embers start flying, they are going to hop into the car and burn rubber getting out of the parking lot. Second, if the employees live in the area threatened by the fire, the chances of them sheltering in the fire-safe building are reduced even further as they tear out of the parking lot heading home to save the cats or possibly even their children.

Wildfire is a peril, and like many others faced by risk managers, it cannot be eliminated. Effective pre-fire planning can reduce the consequences of a wildfire upon a particular firm and its employees. Employees can be made aware of the dangers of wildfires both at home and at the firm. Evacuation plans, premapped routes, and coordination among the community, the firms and the fire professionals can help to prepare for the wildfire that hopefully will never occur. **RHA**

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## **FROM NEAR AND FAR**



London — In an article published by *Business Insurance*, the National Farmers Union reported that British farmers face losses of about \$740 million because of severe flooding during this winter. Most of the losses are insured.



London — The Council of Lloyd's has elected John Goldman and Bronek Masojada to the position of deputy chairmen of Lloyd's. Goldman is currently chairman of the Benfield Craig Group, and Masojada is chief executive of Hiscox.



New Orleans — Continuing the tradition of Louisiana insurance commissioners, current commissioner Jim Brown became the third consecutive commissioner to be convicted on federal charges when he was sentenced to six months' jail time and incurred a \$50,000 fine for lying to federal investigators.



India — The losses from the massive earthquake that struck western India on January 26 will not be known for quite some time. However, the Federation of Indian Chambers of Commerce & Industry estimates that in the state of Gujarat alone the total economic loss will be more than \$3 billion. More than 30,000 lives could have been lost to the earthquake, which measured 7.9 on the Richter scale.

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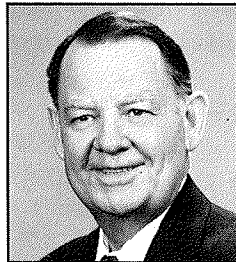
## McSWANE JOINS ROBERT HUGHES ASSOCIATES

We are pleased to announce that Douglas R. McSwane has joined Robert Hughes Associates, Inc., as an associate.

Doug has more than 47 years of healthcare, managed care and Medicare/Medicaid experience. He spent 14 years as a clinic/hospital administrator and 14 years as an executive with a major healthcare insurance company which contracted as a Medicare and Medicaid carrier and intermediary. He has spent the last 17 years as a consultant to physicians, hospitals, healthcare providers, insurance companies and other corporations and their attorneys.

He will provide consultations, case development and expert witness testimony in matters including, but not limited to, fraud and abuse cases


involving health insurance, Medicare, Medicaid and managed care; state medical examiner audits and investigations; Medicare and Medicaid and health insurance coding and claims payment issues; health insurance benefits and provider contracts; managed care organization benefits provider contracts; and insurance bad faith.



McSwane

“Doug’s exceptional background, work ethic and personality make him a wonderful addition to our group of consultants. He brings a whole new dimension to our company

and will enhance our practice immensely,” said Robert N. Hughes, the president of RHA, Inc.

Doug can be reached by phone at (972) 980-0088 or by e-mail at [mcswane@roberthughes.com](mailto:mcswane@roberthughes.com). 

## THE RHA REVIEW

Publisher ..... Robert N. Hughes  
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*The RHA Review* is published quarterly by Robert Hughes Associates, Inc. — an independent international litigation support, actuarial, risk management and insurance consulting company based near Dallas, Texas, with offices in Houston, Texas, and London, England. The purpose of this publication is to offer insurance-related information and critical comment pertinent to the clients, friends and fellow professionals of Robert Hughes Associates, Inc. This publication is available free to interested parties. The information contained in this publication is intended to be general in nature; readers should obtain professional counsel before taking any action on the basis of this material.

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