

Trauma in a Toxic Town....

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Introduction:

Park Oak, first visited by Pierre Marquette in 1673, is one of the oldest communities in Illinois. Early settlers were initially attracted to Park Oak as a port city and shipped produce and grain from Lake and McHenry County farms to Chicago. The creation of the Illinois Parallel Railroad (now the Chicago & North Western) in 1855 stimulated interest in Park Oak as a manufacturing center. The town continued to grow and diversify and Park Oak was incorporated as a city February 23, 1859, with an area of 5.62 square miles. Today the community has expanded to approximately 15 square miles and nearly 55,000 residents. Park Oak continues to experience steady growth in population, business and in its importance to Lake County.

Located along a bluff line on the shimmering western shores of Lake Michigan, Park Oak is perfectly situated between Chicago and Milwaukee. Park Oak is 39 miles north of Chicago and 60 miles south of Milwaukee, making it an exceptional place to do business or to live.

Park Oak is a community rich in history and blessed with a wide diversity of people. Many cultures, religions, ethnic heritages, and income levels are represented in the city. Near-by shopping, parks, schools, and places of worship make Park Oak a well rounded community in which to raise a family. Park Oak offers varied living from tree lined residential neighborhoods to luxury apartments. From \$50,000 starter homes to \$1,000,000 dream homes, Park Oak has housing available for all its residents. As the ninth largest city in Illinois, Park Oak still maintains a high quality of life. The people of Park Oak combine their energy and their resources to unite in a spirit of friendship, commonality, and mutual benefit. Park Oak is many things to many people... comfortable, exciting, and unique.

Because Park Oak has a sizeable tax mill base for its school districts and park districts, it has many amenities available to its residents. The schools have up to date facilities, and meet or exceed educational benchmarks. In addition, there are over 12 park district facilities which offer classes, trainings, and sporting events for residents. Park Oak Village also has a Township structure which oversees social services for the

village. The Township offers General Assistance, Youth Senior Services, and Mental Health services. Annually, the Township of Park Oak sends out resource directories for all of its various services. There are case managers strategically located at the Health Department, the Township offices, and the high school to assist residents with a variety of needs.

The Township is particularly proud of the breadth of services offered. There is a firm commitment from Advisory Board members, staff, and Village Trustees to keep services available for all residents. The Township, the Park District, and the Village all work in concert to provide the best possible environment. It is an environment that draws new residents and keeps older residents in the area.

One of the long term residents of Park Oak is Annie Hall. Annie has lived in Park Oak since 1956. As Annie has gotten older, her hearing has worsened. Now Annie is 70, and primarily limited to staying at home. She lives in a four story condo building on a main street in Park Oak, near the el stop and next door to a large Catholic Church. She's lived in that building since it was developed in the 1970's and is an original owner. As a result, she does not want to give up her independence and move into senior housing. Her case manager with Senior Services checks on her regularly, but she dislikes even that intrusion. Her fellow condo residents worry about her because she has no children and in the past, she has not been able to hear either the phone or people knocking on the door. This posed a huge problem one evening when her next door neighbor smelled smoke coming from Annie's apartment. Annie had fallen while cooking, and was not able to get to the phone or the door. Her neighbors remain concerned, but are not sure that there is anything that can be done without Annie's cooperation. In general, neighbors check her mail and leave it outside her door. Twice a week, a home services aide comes to help with cooking and cleaning, and she has her own key. On the weekends, there is no help for Annie and her neighbors seldom see her anymore.

Incident:

On February 1, 2004 at 6:39 p.m. a Suffolk and Southern Railway train traveling at 45 mph missed a switch and ran into a parked locomotive near Highbrook Station located in a densely populated residential area. The switch was not operative due to ice from a major snow storm, which was occurring at the time of the crash. The train was carrying hazardous materials including chlorine, sodium hydroxide and cresols. The tanker carrying chlorine was damaged and gas was leaking immediately upon impact. In all, sixteen cars were derailed. City police were notified at 6:43 p.m. and the first squad car arrived on the scene at 6:47 p.m. After a quick assessment, the Hazardous Materials (*Haz Mat*) Unit was called at 6:52 p.m. The first ambulance arrived at 6:53 p.m.

The Haz Mat Response team arrived at 7:15 p.m. After reviewing the EPA required Haz Mat documentation posted on the side of the tanker car and determining that the car was leaking chlorine gas, an evacuation notice was given for a one-mile radius surrounding the gas leak. The area's evacuation plan was put into place, which consisted of a telephone tree to the city's Human Services Department, local pastors,

local veterinarian, local Chamber of Commerce, and local elected officials. Each, in turn, began to telephone people in the neighborhood to evacuate.

The arrival of Park Oak Human Services workers, who would conduct a house to house canvas, was hampered by the snow. Many area residents, not part of any formal call plan, were not contacted for several hours. Due to the snow and lack of workers to knock on doors, residents of three group homes for the cognitively impaired in the neighborhood were not contacted immediately. There were also a number of individuals who were elderly and home-bound and who were also not contacted for several hours.

Annie Hall was resting in her condo at the time of the crash. Since it was later in the evening, she had eaten her previously prepared meal and was resting in her bedroom. She alternated between half-watching television and dozing off. She felt fine when she initially finished eating dinner, but at one point she was awakened from her dozing by a burning sensation in her eyes. She thought that was a sign that she was really tired, so she turned the lights out in the bedroom and went to sleep for the evening.

Annie's neighbors, passing by on their way to evacuate the building, knocked on her door for several minutes wondering if she was at home or if she was again in the hospital, ill. Her neighbors knocked and called on the phone for quite some time, and getting no response, assumed she had recently returned to the hospital. The building soon cleared out, as all of the residents went to the emergency shelters in the neighborhood. Annie continued to sleep, unaware of the toxic materials right outside of her door.

During that time, all residents of the local group homes became extremely ill and required transport to the local hospital. Their symptoms included burning of the eyes and skin, rapid breathing, wheezing and pain in the lung region. There was some concern that high-level exposure could lead to more serious symptoms of corrosive eye, skin and respiratory tissue damage, or pulmonary edema and even death. Once they were contacted, residents in a one-mile radius were notified that they would not be allowed to return to their homes for three to seven days and that they should take their pets with them. Emergency shelters were set up in local schools and churches outside the one-mile radius.

The following instructions, for their return home, were given to residents in a Fact Sheet format:

- ~ Notify Norfolk Southern (NS) Systems Claim Office at 1-800-230-7049 for: electrical problems and animal or pet needs.
- ~ Open doors and windows, and run the heating and air conditioning systems for 30 minutes to circulate the air.
- ~ Run water from your kitchen tap for 2 minutes and flush all toilets to clear stagnant water.
- ~ Additional things you may want to do:

Change air intake filters in your heat and air system;
Wash clothing and bedding that was in the home;
Wipe off/wash children's playthings, wash animal bedding, and
wipe/wash kitchen counters with water or mild soap.
No special actions are needed for children, elderly residents or pregnant

women.

All items can be disposed with household trash.

- ~ Food Items: remember, When in doubt, throw it out!
- ~ Keep: canned, unopened pre-packaged, frozen and refrigerated foods.
- ~ Throw out: opened, unprotected food items left out in the open and any

other

items that could have spoiled while you were not home. If you lost

power,

refrigerated foods may have spoiled and you should throw out
frozen foods that have thawed.

- ~ For questions regarding the safety of a food item, you may contact SCDHEC
at 642-1637 or the USDA Hotline at 1-800-535-4555.

By the next morning, a dusk-to-dawn curfew was imposed within two miles of the wreck, for fear that the snow would cause the chlorine to settle into the ground and contaminate the water supply. Chlorine hydrolyses in water forms hypochlorite and hypochlorous acid. Free residual chlorine dissipates rapidly and has a half-life of 1.3 to 5 hours. Air quality monitoring was conducted three times per day.

What happens to chlorine when it enters the environment?

- ~ When released to air, chlorine will react with water to form hypochlorous acid and hydrochloric acid, which are removed from the atmosphere by rainfall.
- ~ Chlorine is slightly soluble in water. It reacts with water to form hypochlorous acid and hydrochloric acid. The hypochlorous acid breaks down rapidly. The hydrochloric acid also breaks down; its breakdown products will lower the pH of the water (makes it more acidic).
- ~ Since chlorine is a gas it is rarely found in soil. If released to soil, chlorine will react with moisture forming hypochlorous acid and hydrochloric acid. These compounds can react with other substances found in soil.
- ~ Chlorine does not accumulate in the food chain.

Emergency teams from the railroad company and the EPA were dispatched to repair the damage to the tanker which took two full days to repair prior to its removal.

Response:

Although there were very few injuries throughout Park Oak, Annie Hall suffered severe respiratory failure as a result of not being evacuated during the incident. That night, Annie woke from her sleep, unable to breathe. Realizing there was a problem, she called 911, who broke the door down to attend to her. The EMTs were surprised to find Annie at home. As they treated her with oxygen, they asked if she knew that there had been a spill, and that the building had been evacuated. Annie, in shock, shook her head “no”. The EMT team took her directly to the local hospital for oxygen treatment and a full assessment. Subsequently, Annie remained at the hospital for over a week, to rid her system of the chlorine toxins and heal her lungs. When Annie’s home services aide, Jennifer, came to visit her at the hospital, Annie asked why no one helped her evacuate. The home services aide had no answer for Annie, but assured her that she would look into it.

Jennifer took Annie’s issue to her supervisor at Senior Services. Was there something Senior Services could have done, after hours in an emergency, to help Annie and others like her? Jennifer felt badly, knowing that Annie was in no position to have gotten herself out, even if she knew about the evacuation warning. Jennifer’s supervisor suggested she bring it up during the department’s next staffing. At the next staffing, more than one home services aide offered that a client of there’s had been in a similar situation during the crash. All of the aides wondered if there was something more that could have been done, if there was something the town as a whole could do to help the elderly and disabled in situations like that. In response to Annie’s situation, regarding lack of notification procedure during the incident, the Village board calls a meeting to address the concerns of Annie and the entire Senior Services department. At this meeting, it was agreed that the emergency plan was in need of updating. They decided the best way to update the plan was via a coalition. They recognized the need to have grassroots involvement at the community level. A coalition was formed pulling in the following groups: Emergency services, Police, Fire, Department of Human Services, Department of Aging, American Red Cross, Park Oak Housing Center, Park Oak Department of Public Health, The Central Business District, Faith based organizations, Agencies that operate shelters, Behavioral Health Service Agencies and other community based organizations that service the needs of the disabled and medically fragile.

The coalition quickly developed a vision and mission statement, as well as identified goals. The coalition understood that to be successful, the community had to be involved. These four items had to be addressed:

- 1) Define the issues
- 2) Define solutions and strategies
- 3) What tools and resources were needed to control the implementation of programs and the strategies?
- 4) Credibility in the community

In order to get community involvement, a Town Hall Meeting was called and

anyone with a vested interest, as well as the community, was invited to attend. At the meeting, it was decided that a needs assessment would need to be completed. In order to accomplish this focus groups were held at local churches and community organizations. After the information from the focus groups was reviewed, the coalition convened and developed this plan:

- 1) Seek, identify and assess individuals in high risk and hard to reach populations. Utilizing this information to develop a uniform registration for special populations.
- 2) Put procedure in place to shelter in or evacuate
- 3) Establish relocation sites
- 4) Confirm availability of transportation
- 5) Contact responsible parties of clients and communicate evacuation or shelter in place
- 6) Announce relocation sites. Provide transportation vehicles.
- 7) Ensure that every individual on the registry list has a support person, group or agency that will assist them with notification, relocation and the provision of needed resources and supplies
- 8) Develop a training schedule to include personal emergency preparedness as well as the training of partner agencies
- 9) Develop an activation system it could be a computerized call down system or a phone tree.
- 10) Require every licensed facility to have a written emergency plan

Closing:

Once the coalition defined these next steps, it began the process of assigning agency responsibility for each step. The coalition as a whole recognized that this would be both a slow and fast process at the same time. In order to maximize resources and ensure human safety, it is a necessary process to go through each step. By May 2004, the special population registry was already in place. Senior citizens and homebound individuals were encouraged, through case managers, postcards, and their regular Meals on Wheels visits, to register with the Township for emergency notification. Symbolically, the first person in line was Annie Hall.

Study Guide:

1. What core functions are evident in this case study?
- 2.. Who should be the first responders in this type of incident?
3. What kind of plan should be in place to notify all residents within the critical exposure area including the homebound and disabled?
4. What community resources are available during a disaster to assist in notifying the homebound and disabled? (e.g. clergy, etc.)
5. What emergency messages/instructions should be given to all community

residents in this kind of disaster.

6. What policies should be in place well in advance of such an event?

7. What is the Public Health Department's role in such a disaster?

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