

Coshocton County Monitor

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Coshocton ethanol plant: many unanswered questions



January 29, 2004 - An ethanol plant in Port Kembla, New South Wales, Australia explodes, rocking areas over 15 miles away and sparked a huge fire that sent flames and black smoke shooting 328 feet into the sky.

Coshocton Ethanol plant wastewater may cost taxpayers millions

The Coshocton mayor has “been evasive” with the Ohio Environmental Protection Agency (EPA) about the kind of wastes that a proposed ethanol refinery will dump into the City of Coshocton’s sewer system, according to documents obtained through an Ohio Public Records Act request.

The end result may be that Coshocton taxpayers will pick up a multi-million dollar tab for constructing and operating a new wastewater treatment plant for the proposed ethanol refinery.

Coshocton Ethanol is planning a new ethanol refinery on a site about two miles south of Coshocton that will produce about 70 million gallons of highly flammable ethanol annually. The plant will also

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Is Coshocton prepared?

Will the Coshocton Ethanol facility have the equipment to fight the kind of fires and spills shown in the picture above? The City and County of Coshocton’s emergency response teams have many brave men and women working for them. But do they have the training, expertise, and equipment to battle these kinds of problems?

A recent study of ARCO and Mobil ethanol facilities in Los Angeles, Calif. figured that the human “error rate” is about one mishap per 2,000 operations. Since there will be 22,000 ethanol tanker trips a year there will be 44,000

connects/disconnects of the refinery’s loading pipes to the trucks. Based upon these calculations, a bad connect/disconnect can be expected about 22 times per year. Spillage from these bad connect/disconnects could lead to an explosion and fire danger. The ARCO study calculated that a 200 gallon spill from a bad connects/disconnect could cause a fire that

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Wastewater

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produce millions of gallons of noxious, polluted wastewater and solids and could discharge as much as six tons of liquid wastes per day to the local sewer plant. The refinery initially proposed to dump several tons of liquid wastes directly into the City of Coshocton wastewater treatment system. The Ohio EPA was very worried that this would overwhelm and destroy the city's sewer system.

“(It) sounds like the City is the one that's going to have some serious problems,” said a Feb. 7, 2005 Ohio EPA e-mail.

But when the Ohio EPA attempted to research this scheme, the refinery developer and Coshocton city employees sought to conceal the facts. Documents, e-mails, and studies that are hidden in the files of the Ohio EPA. However, the Ohio EPA is issuing an air pollution permit to the proposed refinery.

Coshocton's evasive mayor

“The Mayor's office and facility representatives have been evasive about the nature of the (ethanol refinery's) discharge,” says a February 3, 2005 e-mail from the Ohio EPA, “(The Ohio EPA) began encouraging the city, personally speaking with the Mayor ... starting over one year ago, that they should communicate with us. (Instead) Ohio EPA has followed the progress of the project by reading the Coshocton Tribune, as the City has not kept us informed. The (local sewer plant) Superintendent has told (Ohio EPA) the Mayor's Office has purposefully not kept him informed ... and has not provided information on the facility's ... waste water.”

The evasiveness about the ethanol plant's water pollution has continued. The Ohio EPA wrote a letter to the ethanol plant owners on March 17, 2005, which said, “Two meetings have been held ... to discuss the proposed Coshocton Ethanol facility ... The company has not provided complete information on its ... sources, volumes and anticipated quality of all waste waters that will be generated.”

Why would the Coshocton mayor and the ethanol developer be evasive about the water pollution from the ethanol refinery? One reason could be that they are planning to stick taxpayers with the bill for a new sewer treatment plant to treat the ethanol plant's wastewater.

City taxpayers may have to pay for ethanol water pollution

Handwritten notes in the Ohio EPA file dated February 3, 2005, reveal that Dave McVay, the sewage pretreatment coordinator for the Coshocton Sewer Plant, stated that one plan under consideration was a “pretreatment plant (for the ethanol wastes) to be owned and operated by the City.”

Apparently the secret scheme to have taxpayers pay for the ethanol plant's wastewater treatment has been planned for some time. As early as August 12, 2004, e-mails stated, “The City could own and operate the pretreatment system...” But nowhere in this correspondence does anyone suggest that BAARD Renewables, the owner of the ethanol plant, should pay a cent to clean up its own wastewater. Instead, everyone assumes that these millions in costs can simply be quietly passed on to taxpayers.

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Corporate welfare

This ethanol refinery is already getting many millions of dollars in tax breaks and grants, whether or not the Coshocton taxpayers are forced to buy and build them a new waste water treatment plant. Published accounts say that the State of Ohio will give the ethanol plant a Job Creation Tax Credit, a Machinery Investment Tax Credit worth \$8.2 million, \$1.7 million in “infrastructure assistance,” low-interest loans from the Water Development Authority, Rural Industrial Park Loans and loans from the Development Initiative funds, a \$5 million direct loan, a \$1 million rural pioneer loan, and a \$35 million Volume Cap allocation, among other money sources.

What jobs?

All of this corporate welfare is supposed to bring another 40 to 50 jobs to Coshocton. How many jobs did this same developer, BAARD Renewables, bring to Ravenna, Nebraska where they claimed they would build an 88 million gallon a year ethanol plant with 50 employees?

One year later—no jobs at Baard's Nebraska plant

According to published accounts, the BAARD Renewables Ravenna plant broke ground in March 2004, but then produced just enough ethanol last summer—perhaps as little as 8,500 gallons—to meet a

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Wastewater

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Even though the pretreatment system for the ethanol wastes would be less expensive, BAARD Renewables instead wants the existing city sewer plant to handle all of the wastes, according to an August 4, 2004 Ohio EPA e-mail, "Jason Tansey with Finkbeiner, Pettis ... represents the City of Coshocton. He talked to the BAARD folks ... BAARD wants (its waste water)

treated at the Publicly Owned Treatment Works (the sewer plant). So it looks like the city must plan for upgrade/expansion."

In other words, the City of Coshocton's taxpayers could end up paying to clean up the ethanol plant's wastewater. The plant will produce 11,000 to 26,627 lbs. per day of wastewater pollution. The existing sewer plant can only process 2,500 to 7,340 lbs. per day, according to August

2004 Ohio EPA e-mails.

The ethanol plant has not yet applied for permits to dump its liquid wastes into the city sewer system. Please notify the *Monitor* if you want to be alerted when the ethanol refinery applies for these permits. Contact information for the *Monitor* is included on the back page.

Ohio EPA proposes a draft permit

Permit will allow Coshocton Ethanol to discharge hundreds of tons of new air pollution onto Coshocton, Public hearing set for May 12

The Ohio EPA has announced it has issued a draft air pollution permit, called a "permit to install," to Coshocton Ethanol. The proposed permit will authorize the plant to emit almost 300 tons of air pollution per year from its smokestacks and its related

truck traffic. Its air pollution will include highly toxic gasses such as acetaldehyde and diesel fumes from the truck exhausts.

LASER has confirmed the time and location of the May 12 public hearing on the permit. (*See information at right*)

Draft permit public hearing

A public hearing regarding the Permit-to-Install issued to Coshocton Ethanol will be held May 12, 2005 at the City of Coshocton City Council chambers at 760 Chestnut St. in Coshocton, Ohio. The draft permit will be open for public comments until May 16, 2005.

Ethanol plant will cause vast increase in tanker and semi truck traffic in and through Coshocton

There will be many impacts on Coshocton from the new ethanol refinery. The *Monitor* is concerned that the average citizen in Coshocton will have no say in how the refinery will affect their lives. For instance, there will be about 300 new truck trips per day to and from the facility. That is about forty tanker and freight trucks per hour, to haul away a highly flammable ethanol/gasoline mix and haul other products to and from the plant on local roads. The plant will be built about two miles south of Coshocton, on County Road 271 between Township Roads 277 and

278. It will refine about 70 million gallons of highly flammable ethanol annually.

An ethanol tanker truck overturned near Cleveland in April 2001, spilling 8,000 gallons of ethanol. Police had to close the area because of the fire and explosion dangers. An ethanol tanker truck accident forced the closure of a highway on July 6, 1999 in Indiana. These are just a few of the hundreds of ethanol truck spills that happen every year. What would happen if a truck overturns near downtown Coshocton and the ethanol catches fire?

A recent study of the ethanol storage facilities at ARCO and Mobil in

Los Angeles did a careful analysis of ethanol/gasoline tanker truck accidents and their consequences. These studies concluded that if a tanker truck accident released 8,800 gallons of ethanol and caused a fire, it would spread toxic fumes for a distance of about 150 yards from the accident. How many homes, schools and businesses are within 150 yards of the potential truck routes to and from the ethanol refinery location two miles south of Coshocton? Many of the tanker trucks will have to drive in and near downtown Coshocton in order to get on and off of the Interstate.

Potential impacts from large scale Coshocton chemical spills

The State of California required full-scale environmental studies of two ethanol storage facilities built by ARCO and Mobil in the Los Angeles area. Those studies required the companies to analyze the potential dangers from everything from a small spill while loading a truck, to full scale storage tank failures.

The Mobil study for instance, stated that failure of a 240,000-gallon ethanol tank would create an explosive blast. A half-mile away, the explosive force would still cause partial demolition of houses, no doubt resulting in serious injuries to people and shattering of glass windows.

Since the proposed Coshocton project would include an ethanol/gasoline storage tank of over one million gallons, the damage radius from its tank failure would be even larger.

Gasoline

Coshocton Ethanol will store about 32,000 gallons of gasoline on site. What will happen if there is a problem with that tank? The federal government has required other ethanol plants to prepare Risk Management Plans. These plans describe the consequences of gasoline tank failures. The plan for the Corn Plus ethanol plant predicted that toxic impacts would spread as far as 2,000 feet away, from failures of gasoline storage tanks of only 20,000 gallons, or only two-thirds as much gasoline to be stored by Coshocton.

Ammonia

Most ethanol plants use gaseous

(anhydrous) ammonia. There are no requirements or conditions that prohibit Coshocton Ethanol from using gaseous ammonia. A release of gaseous ammonia would cause toxic impacts for many miles. The Risk Management Plan summaries for the High Plain-York ethanol plant uses anhydrous ammonia to adjust pH during the initial breakdown of (corn and sorghum) starch to sugar. They have had two uncontrolled releases in five years, caused by poor operating procedures and operator error. Their plan said a large ammonia release would have toxic impacts for 7.33 miles.

Chlorine

Many ethanol plants store larger amounts of chlorine on site to purify their cooling water. An accidental release of chlorine could send a toxic cloud out for considerable distances. The Risk Management Plans for the Minnesota Corn Processors plants in Marshall and Columbus, state that just a one-ton chlorine releases would have toxic impacts for almost one mile.

Here is a summary of data from other Risk Management Plans for several ethanol plants on file with the EPA. These Risk Management Plans describe how widespread the impacts would be from a release of toxic materials at their plants. These distances are described either as "off-site" impacts, or the distance of the significant toxic impact is given. The "end point" means the distance at which the air would contain toxic levels of gasses from an accident.

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Welfare

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deadline for yet another \$22.5 million tax giveaway by the State of Nebraska. Then the plant shut down. As of January 2005, there were few, if any jobs at the Ravenna plant. "The equipment that was used to produce enough ethanol to meet last summer's deadline for state incentives is just sitting there," said a *Grand Island Independent* article dated January 27, 2005.

Ethanol plant's impact on groundwater resources

Groundwater use

The ethanol refinery could consume billions of gallons of precious groundwater a year for its manufacturing processes. That groundwater would no longer be available for agricultural irrigation or other uses.

Ethanol can speed contamination of groundwater

Gasoline that is diluted with ethanol also moves 20-30% more rapidly through groundwater than does pure gasoline. This could mean that groundwater contaminated with ethanol would become contaminated more swiftly from spills and releases. Gasoline containing ethanol also tends to crack clay strata, allowing ethanol/gasoline contamination to infiltrate through what was once a barrier against groundwater contamination.

Chemical spills

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Ethanol plants risk management plan review

These details from Risk Management Plans for ethanol plants illustrates that amounts of gasoline and other chemicals, smaller than what will be stored at Coshocton, if released, would cause significant adverse impacts.

- **Chippewa Valley Ethanol**

produces 50,000 gallons of anhydrous ethyl alcohol per day. A explosion of a railcar (29,000 gallons) of gasoline would have impacts for .16 miles.

- **Corn Plus** has about 20,000 gallons of gasoline stored on site. A release of this amount would affect an area of .39 miles in every direction. They had a 4,500 gallon gasoline spill in 1998.

- **High Plains-Colwich** uses gasoline to denature ethanol and has a peak of 22,137 gallons stored on site. A sudden release of that fuel would spread a catastrophic vapor cloud explosion for to spread for .4 miles.

- **Midwest Grain-Illinois** uses ammonia as a nutrient and for pH control. A release of 130,000 lbs. of ammonia would have a toxic endpoint of 4.1 miles. An 18,000 lb. release would cause toxic impacts for .3 miles.

- **Minnesota Corn Processors-Marshall** operates a wet corn milling and ethanol production plant. It uses sulfur dioxide to minimize bacteria growth and

to prepare corn for further processing. Aqueous ammonia is used in the fermentors for ethanol production.

A rupture of the 103,700 lb. sulfur dioxide tank would cause toxic impacts for 25 miles. A 900 lb. release would cause toxic impacts for .3 miles. This facility did have a 900 lb. release in 1995, caused by human error. Several workers were hospitalized.

- **Minnesota Corn Processors-Columbus** uses sulfur

dioxide is used to minimize bacteria growth and to prepare corn for further processing. A rupture of the 103,700 lb. sulfur dioxide tank would cause toxic impacts similar to the ones for the Marshall plant, about 25 miles. A 900 lb. release would cause toxic impacts for .4 miles.

An ammonia release would cause toxic impacts for .1 miles. There was a 650 gallon ammonia release in 1995 caused by a tank overflow and an alarm failure. A worker was hospitalized.

Fires

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would present a risk for 24 yards. A fire of this size could ignite a nearby tanker truck or rail car filled with ethanol/gasoline, which would trigger a larger fire and/or explosion.

Other similar ethanol plants have blown up, released toxic gasses, and caused large fires

The Coshocton ethanol plant will store massive amounts of highly explosive and flammable chemicals on site, including almost one million gallons of an ethanol/gasoline mixture. The plant will also store pure gasoline. It will handle thousands of gallons of toxic sulfuric acid, ammonia, and caustic chemicals. The U.S. Chemical Safety and Hazard Investigation Board's web site (www.csb.org) and several published accounts, provide recent examples of accidents at ethanol refineries involving these substances.

Million gallon ethanol spill at the ADM ethanol facility

A catastrophic storage tan

failure produced a million gallon ethanol flood at the Archer Daniels Midland plant in Illinois on May 23, 2000. An ethanol leak sparked the mishap.

"It wasn't so much an explosion as it was a concussion of the metal, which split from top to bottom and released all that fluid," said Lt. Todd McKenzie of the Decatur Fire Department, "The sheer force of that was enough to make things shake."

Two people were injured. "Witnesses saw them literally swallowed up in the liquid" that spewed from two collapsed tanks, said the Fire Department Captain.

This incident is very important, because it illustrates there can be a catastrophic tank failure at an ethanol plant. In this instance, two tanks completely failed, releasing their entire contents. If that million gallons of spilled ethanol had caught fire, the resulting explosion would spread havoc for over one-half mile, according to the Risk Management Plans and environmental impacts reports for

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Fires

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many ethanol plants.

Fire and explosion at the Midwest Grain ethanol facility

On September 13, 2002, a major fire and explosion tore through the Midwest Grain alcohol refinery. The building's roof and part of a wall were blown off. A one-block area near the plant was littered with pieces of brick, steel, and broken glass.

It took the local fire department over six hours to quench the 30-foot-high flames from the resulting fire, because the equipment that supplies alcohol could not be shut off. The local police department created a three-block buffer zone because of fears of a second explosion.

"We had a fairly severe explosion," conceded the company's vice-president in a press account, "It was

a loud rumble. There was a lot of shaking and vibrating. I could see flames." The explosion blasted glass and steel across the main street of Atkinson, Kansas, and closed the facility for two months.

An employee of a grain milling and elevator company reported that the explosion shook windows 10 miles away. "It scared us all to death," said Sally Rains, who lived two blocks from the plant, "I thought a bomb had exploded."

Four people were injured. One burn victim was evacuated by helicopter to the University of Kansas Medical Center. A plant employee in a nearby building sought medical care after suffering eye injuries from broken glass.

Just two weeks later, there was another explosion at the plant when some starch particles ignited and blew

the top off of a storage tank. There had also been an earlier explosion in January 2001 that blew out a wall at the company's packaging plant, when starch caught fire.

The Chemical Incident Report Center's October 16, 2002 report stated that the ignition of alcohol fumes caused the September 13 explosion.

Fires, odors, toxic chemical leaks at Gopher State Ethanol Plant

At the Gopher State Ethanol plant near St. Paul, Minnesota, neighbors have had many noise and odor complaints since immediately after the plant opened. There have been two fires and at least two ammonia releases during its two years of operations.

On September 2, 2001, only five months after the plant opened, its

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Other ethanol plant-related fires and explosions

May 2004- A Cairo, Illinois ethanol plant bursts into flames.

August 2003- A Plover, Wisconsin ethanol plant blows up, severely burning a worker who was rushed to a burn center by helicopter.

May 9, 2002- A fire broke out at the Archer Daniels Midland ethanol plant in Decatur, Illinois.

January 30, 2002- A methanol storage tank fire in Houston caused evacuations of an unknown amount of people and the closure of a nearby highway for about three hours. A few hours later, the tanks burst into flames a second time. A dozen firefighter crews had to respond to the 5 a.m. blaze.

December 2, 2001- An ethanol plant in Winnebago, Minnesota catches fire.

December 26, 2000- A methanol tank and other facilities exploded and burst into flames in New Mexico, after a natural gas pipeline ruptured. The explosion created a crater 25 feet long, 20 feet wide, and 10 feet deep. The fire was quenched in two hours with the use of foam and water.

August 22, 2000- A fire and explosion at the Heartland Grain Fuels ethanol plant in South Dakota injured four workers, two of them with severe burns. Firefighters used foam to control the fire.

June 15, 2000- A fire at an ethanol tank in Watertown, South Dakota forced the evacuation of 100 homes.

March 21, 2000- The New Energy Ethanol Plant in South Bend, Indiana bursts into flames.

May 2, 1999- An ethanol plant in London, Ontario catches fire.

Fires

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neighbors suffered from the second ammonia release from the plant in a month. The plant then caught fire, on March 27, 2002. As a result, the fire department ordered the plant shut down for inspections. The plant again caught fire, this time on June 4, 2002. It took the fire department almost two hours to put out the fire. The fire caused the closure of a nearby street.

Diana Gerth, vice president of a neighborhood organization, said, "what is really disturbing is that the state requires a risk management plan. These folks still don't have one." She noted that the plant isn't equipped to handle emergencies like fires.

The company claimed operator error caused the fire.

City council member, Chris Coleman, said the plant was allowed to "open too quickly after the last fire" in March. "Not only was there a recurrence of the same problem we've had before, but this time it was mishandled and the fire was allowed to get out of hand. That's extremely frustrating."

The city also fined the plant \$5,000 for a contempt citation related to noise violations.

Smoke and odors at the Lena, Illinois ethanol plant

The Illinois Environmental Protection Agency issued six air pollution violation notices against the Atkins ethanol plant in Lena, Illinois, January 2003, just a few months after the plant began production. The violations charged that the plant caused and allowed air pollution as evidenced by numerous citizen complaints, that they had constructed a feed dryer and other units without first obtaining a permit, they failed to notify the agency of the date of the operation's start-up, failed to

conduct performance testing of the dryer boilers, turbine and scrubbers, failed to notify the agency about permit violations, and failed to conduct its operations in accordance with good air pollution standards.

Scores of angry neighbors of this plant have crowded into recent public meetings to complain about the strong odors and intolerable air pollution from this facility. Published accounts say that the plant's neighbors also complained of a "navy blue smoke plume" from the plant that "rolled like a western tumbleweed" through their yards, with a stench so pungent that people could barely breathe.

Fire and explosion at Chippewa ethanol plant

In October 2003, a tank holding 40,000 gallons of corn mash exploded with a "whoosh and a flash" at the Chippewa Valley Ethanol Company, in Benson, Minnesota. The explosion killed one worker and severely injured another, according to the *Twin Cities Pioneer Press*.

The blast "was a massive explosion and its highly probable, from what we're hearing from people, that there were up to three explosions, said Steve Kellen, a fire marshal investigator. Part of the exploded tank flew 75 feet, and landed on top of a tanker truck, causing the truck to explode into flames. Sulfuric acid was also released.

Ten fire agencies had to respond to the blaze.

In summary, several new ethanol plants and alcohol storage facilities have had fires and explosions within the last few years. Will the Coshocton area have the emergency personnel, equipment, and services to respond to these catastrophes?

Will the plant have special foam to fight ethanol fires?

Chemical fire fighting literature, including the Chemical Incident Report Center's report on the Heartland Grain ethanol fire, indicate that use of the proper fire fighting foam is more appropriate for quenching ethanol fires.

Here is a summary of some of the information available in the chemical fire fighting literature:

- In 1999, firefighters in the United Kingdom needed foam to prevent a large ethanol spill from bursting into flames.

- Firefighters needed Alcolac foam to stop a massive alcohol fire in Avonmouth on Oct. 3, 1996, at the Avon GATX terminal in 1994, and at Coode Island in Australia in 1991.

Will the Coshocton Ethanol plant have foam available to fight super-dangerous ethanol/gasoline fires that could involve thousands of gallons of chemicals? Maybe some one should ask Coshocton's "evasive" mayor what types of safety requirements will be mandated for the ethanol refinery.

About LASER

LASER, Inc. is an acronym for Legal and Safety Employer Research Incorporated. LASER is incorporated in the state of California as a non-profit corporation. LASER has been in existence for over ten years. LASER has a long history of reviewing industrial projects such as the proposed Coshocton Ethanol project and of providing information to the communities that may be affected by these types of projects. LASER believes that ethanol plants can be of great benefit to the communities they are situated in, if they are built with proper financing and responsible, transparent oversight is administered by regulating agencies and local governments. At this time, LASER has found more questions about Coshocton County's proposed plant than answers.



Photos above: Fire at the Port Kembla ethanol plant in New South Wales, Australia; Tank collapse during the same fire at Port Kembla.

Photo at left: In Benson, Minnesota a metal storage tank separated and part of it landed 75 feet away on a tanker truck, which burst into flames. The explosion killed a man and injured another. (Photos this page and on pg. 1 taken from the *Cambrians for Thoughtful Development Ethanol Plant Incident* website at: <http://homepage.mac.com/oscura/ctd/incidents.html>)



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