

Soy processing expansion raises concerns for east side residents



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3:38 p.m. CDT September 24, 2015



(Photo: Brian Powers/The Register)

Editor's note: An earlier version of this story included inaccurate figures on the amount of soybeans processed at the ADM plant in Des Moines. Those figures, provided by the Iowa Department of Natural Resources, have been updated.

The biggest single producer of hazardous air pollutants in Polk County is planning to increase production at its facility on Des Moines' east side.

That has Archer Daniels Midland neighbors raising questions about the health risks posed by toxic emissions and particulates released at the soybean processing plant.

Concerned residents submitted a list of questions two weeks ago to the Iowa Department of Natural Resources, which issues the air quality permits ADM needs to increase production levels.

They also asked the DNR to extend a 30-day comment period to give neighbors more time to provide feedback on the plans.

Those questions still await answers and the DNR said this week it would not extend the comment period.

"As the state we've met all of our legal obligations and we sent all the legal notices we're required to do," DNR environmental engineer Chris Roling said. Residents should receive answers to their questions this week, he added.

When asked by The Des Moines Register about neighbors' concerns, ADM issued a statement saying the company had followed the permitting process required by the state.

"These modifications will increase the amount of soybeans purchased from local farmers, enhance the facility's economic viability and improve the energy efficiency of the plant, all without adding to the existing facility's footprint," spokeswoman Jackie Anderson said.

ADM's Des Moines facility was the third-largest producer of air pollutants in the state in 2014, according to data from the Iowa Department of Natural Resources.

The facility, which refines raw soybeans into soybean oil for cooking and industrial uses, wants to upgrade equipment and increase production by 16 percent next year. That would allow it to process 1.97 million tons of soybeans per year, compared to 1.7 million tons currently.

But that production bump also means more emissions — 182 more tons of volatile organic compounds and roughly 20 tons of particulate matter each year — entering the surrounding environment.

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Archer Daniels Midland (ADM) is increasing its soy production and area residents are concerned this will mean more hazardous air pollutants from the plant with is already Polk County's largest air polluter. Here the plant is seen in Des Moines on Wednesday, September 23, 2015. (Photo: Brian Powers/The Register)

Residents feel in the dark

The ADM facility is located in an industrial area along the Union Pacific rail line at the intersection of Euclid and Delaware avenues just west of Interstate Highway 235.

The plant's immediate neighbors include a flea market, a food-testing facility and several automotive-related business. But about a mile to the south and east are the Douglas Acres and Fairmont Park residential neighborhoods.

Neighborhood leaders said they knew nothing about ADM's plans to up production levels until the day before a Sept. 9 public information session with the DNR. That was just two days before the state-required 30-day comment period ended.

"What is the impact on the neighborhood, on our children with an elementary school blocks away?" said Marlon Mormann, an attorney and president of a northeast Des Moines neighborhood coalition. "We don't have enough information. We don't have enough time."

Neighbors' concerns center on Garton Elementary School and Luther Park Campus senior living community, each less than a mile from the plant.

"I have concerns for all these young people that are going to be outside," Suzette Jensen said.

Valerie Madison grew up close to the ADM site. She moved away in the 1970s, but returned to her old home roughly 20 years ago when her parents died.

"I'm worried about this because I'd like to finish out my life in this neighborhood," the 65-year-old said. "I don't want to be poisoned."

Polk County Supervisor Tom Hockensmith also grew up near the ADM plant. He said neighbors' questions deserve answers from public officials and ADM before the expansion unfolds.

"They have a right to get answers," he said.

The veteran supervisor said odors at the soy-processing plant, which are not regulated, have long affected quality of life in the area. But the health impact of emissions should be more clear cut.

"Say there's equipment failure there, that's the part residents have the right to be concerned about," Hockensmith said. "I think that ADM needs to respond to those things."

No representatives from ADM attended the public meeting.

Des Moines Councilman Bob Mahaffey, whose ward covers the northeast side, said minimal information on air quality was available for residents.

"We really have not had enough time to address this," Mahaffey said. "I encourage, like the people have requested, an extension of time."

Increasing production

Air quality permitting and enforcement involves a complex overlap of federal, state and county agencies looking at a wide range of pollutants.

DNR spokesman Kevin Baskins called air quality regulation, "One of the most complicating things we do."

ADM must receive approval to step up production from the Iowa DNR and Polk County's Air Quality Division, which regulate various aspects of emissions.

The facility needs 15 permits covering different emissions standards. DNR officials said they have reviewed the applications and they do not expect any issues to delay the ADM project.

The permits do not include health risk assessments, which are required in some states.

"We do not have an air toxics program, so we do not conduct a risk assessment of individual hazardous air pollutants," said Roling, who oversees the DMR's air quality permitting.

Hazardous air pollutants is a term covering more than 180 compounds known or expected to cause cancer or other health concerns identified in the federal Clean Air Act.

The ADM plant in Des Moines emitted 314 tons of these pollutants in 2014, a figure 12 times greater than any other Polk County facility.

By comparison, a Bridgestone tire plant on Second Avenue produced 11 tons of hazardous air pollutants.

The primary source of the pollutants at the ADM plant is hexane, a volatile organic compound used to extract oil from soybeans.

ADM projects its expansion will increase its annual release of volatile organic compounds by 182 tons, pushing the Des Moines plant's annual count beyond 600 tons.

That figure is exceeded by only five other industrial factories in Iowa, according to DNR data. Two of them in Clinton County and Cedar Rapids are also owned and operated by ADM.

A plastic fabrication company, Equistar Chemicals in Clinton County, is Iowa's top contributor of volatile organic compounds, emitting 1,950 tons in 2014, according to DNR data.

Volatile organic compound emissions are a precursor to ground-level ozone.

The Environmental Protection Agency identifies various health risks related to ground-level ozone, including chest pain, coughing, throat irritation, and congestion with exposure to the gas. Ozone can also worsen bronchitis, emphysema and asthma.

"Breathing ozone can trigger a variety of health problems, particularly for the elderly, children and anyone with asthma or lung diseases," according to the EPA's website.

Polk County is responsible for compliance and oversight of permits issued to the Des Moines plant. Local inspections and testing typically occur every 18 months or two years, according to officials with the Air Quality Division.

In 2003, ADM's Des Moines facility was part of a federal Clean Air Act settlement that cost the grain company an estimated \$340 million.

That case, involving 14 state and county entities — including Iowa and Polk County — claimed that ADM failed to accurately estimate emissions and expanded operations without installing required air pollution control technology, according to EPA officials.

ADM is a multinational agribusiness based in Chicago, Ill., that owns and operates facilities across the nation that process grains and oilseeds for food, feed, ethanol and other industries.



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Health risks from emissions

Drake University associate professor David Courard-Hauri, with the department of environmental science and policy, said hexane particulate may pose a greater threat than ozone in the immediate area. Time and specific conditions are needed to create ozone.

Hexane has no known links to cancer, but it can cause numbness in the feet and hands of people who inhale too much of the compound. That is sometimes followed by muscle weakness in the feet and lower legs, according to the Iowa Department of Public Health.

Courard-Hauri said odor near a plant generally indicates that some emissions are in the air.

"If they're smelling stuff, then that means that some of it is coming down to the surface," Courard-Hauri said, noting that specific readings would require impact studies and modeling.

Stuart Schmitz, state toxicologist with the Iowa Department of Public Health, said there appears to be some disconnect between air quality permits and the health effects in surrounding areas.

"There isn't enough information to answer the questions they (residents) have," state toxicologist Stuart Schmitz said this week. "It is a little concerning in that sense."

Archer Daniels Midland Des Moines facility

Archer Daniels Midland Co.'s Des Moines facility is one of the largest soybean processing plants in Iowa. The site processes more than 1 million tons of soybeans per year for soybean meal, food oil and animal feed.

ADM is one of the world's largest agricultural processors and food ingredient providers. It claims more than 33,000 employees serving customers in 140 countries and had net sales exceeding \$81 billion in 2014.

The Des Moines facility employs roughly 90 people and covers more than 30 acres at 1935 E. Euclid Ave. It includes four distinct operations:

Grain handling: Soybean is delivered, sorted and crushed

Extraction: Hexane (a hazardous air pollutant) is applied to crushed grain to separate valuable soy oil

Refinery: Oil is processed and refined into various grades for cooking, lubricants or other uses

Energy creation: The plant creates its own electricity with a heat-and-power cogeneration facility, which operates on coal and natural gas.

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