STATE OF MINNESOTA
IN COURT OF APPEALS
A10-539

Olmsted County Concerned Citizens, et al.,
Appellants,

vs.

Minnesota Pollution Control Agency,
Respondent,

MinnErgy, LLC,
Respondent

Filed December 7, 2010
Affirmed
Stauber, Judge

Olmsted County District Court
File No. 55CV091080

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Considered and decided by Stauber, Presiding Judge; Halbrooks, Judge; and Collins, Judge.*

* Retired judge of the district court, serving as judge of the Minnesota Court of Appeals by appointment pursuant to Minn. Const. art. VI, § 10.

U N P U B L I S H E D O P I N I O N

STAUBER, Judge

On appeal from the district court's grant of summary judgment affirming respondent-agency's refusal to require an Environmental Impact Statement (EIS) for an ethanol facility, appellants argue that the decision not to order an EIS was arbitrary and capricious and not supported by substantial evidence. We affirm.

FACTS

This case arises from respondent MinnErgy, LLC's proposal to construct and operate a 75 million-gallon-per-year ethanol plant (the plant) on 325 acres in Olmsted County, approximately one mile from the City of Eyota. The proposed plant would rely on process water from two production wells for its water needs. These wells would reach approximately 585 to 671 feet below the ground surface to the Jordan aquifer, the lowest of three aquifers in St. Peter-Prairie du Chien-Jordan aquifer system. From the two wells, the proposed ethanol plant would consume an estimated several hundred million gallons of water per year.

In an effort to curb pollution, the plant would be subject to wastewater discharge limits through respondent Minnesota Pollution Control Agency's (MPCA) NPDES/SDS water quality permitting system. The plant would only discharge non-process wastewater, consisting of "cooling tower blowdown, multimedia filter backwash, reverse osmosis reject water, and water softner regenerate." The plant would then discharge the non-process utility wastewater through a 5.4 mile pipeline into Bear Creek.

In contrast to the non-process wastewater, process wastewater would not be discharged. Instead, the plant is designed to recycle the process wastewater. In addition, the plant will include an industrial stormwater pond to collect stormwater run-off from the facility. The stormwater will be discharged into a watercourse on the northern part of the property which runs into Bear Creek approximately two miles downstream. The pond will also be fitted with a "manual valve" to control discharge into the watercourse.

Pursuant to Minn. R. 4410.4300, subp. 5 (2009), an environmental assessment worksheet (EAW) was required for the project because the plant would have the capacity to produce 5,000,000 or more gallons per year of ethanol. In late 2006, community meetings were held where the MPCA answered questions and heard community concerns regarding the proposed ethanol plant and the EAW and permitting processes. Following the meetings, a draft EAW was completed by the MPCA. From September 2007 to June 2008, members of the public along with staff from the MPCA, Minnesota Department of Health (MDOH), MinnErgy, and local government officials reviewed the draft EAW and made suggested revisions.

The final EAW was published on June 2, 2008, thereby commencing the 30-day comment period required by Minn. R. 4410.1600 (2009). After receiving several requests by interested parties, the MPCA extended the EAW public-notice-and-comment period until August 1, 2008. During this comment period, the MPCA received 182 responses pertaining to the project. The content of the responses ranged from expressions of support for the project to expressions of concerns about the project. The wide range of comments and concerns included: air quality, ground and surface water, karst geologic

features, spills and emergency responses, increased traffic, fish and wildlife ecology, connected/phased actions, compliance and enforcement of permits, data and modeling methodologies, terrorist activity, energy policy, food policy, land-use changes, and economics. Nearly half of the letters received by the MPCA requested an environmental impact statement (EIS) on one issue or another.

On October 28, 2008, the MPCA Citizen's Board (the "Board") held a public hearing on the matter. At the meeting, MinnErgy requested approval of findings of fact, conclusions of law and order and authorization for the Board to issue a negative declaration on the need for an EIS. Following presentations by MPCA staff and concerned citizens, the Board postponed the decision for a month pursuant to Minn. R. 4410.1700, subp. 2a(B) (2009). The Board also asked the MPCA to prepare for the November 2008 public hearing a set of findings requiring a limited-scope EIS on several issues including: surface and ground water interactions in karst geological areas; the adequacy of a 30-day pump test to predict the quantity and quality of water in the karst geological areas, the effectiveness of aquitards in the area, and an alternative analysis of the proposed discharge on Bear Creek.

In response to the Board's information request, the Minnesota Department of Natural Resources (DNR) submitted a memorandum stating that Bear Creek was not a candidate for trout-stream designation. In addition, the MPCA staff submitted a memorandum to the Board in response to the issues raised at the October 2008 hearing. The memorandum attached proposed findings of fact, conclusions of law, and order for a limited scope EIS; an MPCA staff response on air-quality issues; and an MPCA staff

response on a variety of other issues, including Bear Creek's water-quality classification; sulfates and water quality; groundwater modeling; Gar Lin Dairy Farms' water use; pump test adequacy; groundwater–surface water interaction; karst geology and spill issues; dye-tracing studies; and MPCA public responsiveness. Shortly thereafter, MinnErgy submitted two memoranda to the MPCA addressing hydrogeologic issues and karst hydrogeology related to water quantity and quality at the proposed site. The memoranda asserted that further testing would not provide helpful data because the results would be the same.

The Board reconvened on November 25, 2008, at which time it heard presentations from community members, MPCA staff and attorneys, MinnErgy, and others. After hearing the testimony and presentations, the Board determined that the proposed ethanol plant did not have the potential for significant environmental effects. Thus, the Board voted unanimously for a negative declaration on the need for an EIS.

Pursuant to Minn. Stat. § 116D.04, subd. 10 (2008), appellants Olmsted County Concerned Citizens, et al. brought a declaratory-judgment action challenging the MPCA's decision not to require an EIS for the MinnErgy project. The parties then brought cross-motions for summary judgment, and the MPCA moved to dismiss the complaint based on improper service of process. The district court denied the MPCA's motion to dismiss on the issue of improper service. But the district court found that the MPCA's conclusion that the MinnErgy project does not have the potential for significant environmental effects was not arbitrary and capricious. Thus, the district court denied

appellants' motion for summary judgment and granted the MPCA's motion for summary judgment. This appeal followed.

D E C I S I O N

Summary judgment must be granted when, based on the entire record before the district court, there are no genuine issues of material fact and either party is entitled to judgment as a matter of law. Minn. R. Civ. P. 56.03. On appeal from a grant of summary judgment, the reviewing court determines de novo whether there are any genuine issues of material fact and whether the district court erred in its application of the law. *Star Ctrs., Inc. v. Faegre & Benson, L.L.P.*, 644 N.W.2d 72, 76–77 (Minn. 2002). The reviewing court also views the evidence in the light most favorable to the party against whom summary judgment was granted. *Id.*

An EAW is "a brief document which is designed to set out the basic facts necessary to determine whether an environmental impact statement is required" for a particular proposal or project. Minn. Stat. § 116D.04, subd. 1a(c) (2008). When the particular proposal or project creates the "potential for significant environmental effects," the Minnesota Environmental Policy Act (MEPA) requires the responsible governmental unit (RGU) to prepare an EIS before engaging in the action. *Id.*, subd. 2a (2008).

The Minnesota Environmental Quality Board (MEQB) has set forth four criteria that an RGU is required to analyze when determining whether a proposed project has the potential for significant environmental effects: (1) the "type, extent, and reversibility of environmental effects"; (2) the "cumulative potential effects of related or anticipated future projects"; (3) "the extent to which the environmental effects are subject to

mitigation by ongoing public regulatory authority"; and (4) "the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs." Minn. R. 4410.1700, subp. 7 (2009). An RGU's analysis must take into account both the project's EAW and any comments received during the public-comment period. Minn. Stat. § 116D.04, subd. 2a(b).

A party challenging an RGU's decision has the burden of proving that its findings are unsupported by the evidence as a whole. *Friends of Twin Lakes v. City of Roseville*, 764 N.W.2d 378, 381 (Minn. App. 2009). When faced with a summary-judgment order affirming a negative declaration regarding the need for an EIS, this court reviews the proceedings before the RGU decision-making body, not the findings of the district court. *Iron Rangers for Responsible Ridge Action v. Iron Range Res.*, 531 N.W.2d 874, 879 (Minn. App. 1995), *review denied* (Minn. July 28, 1995). In doing so, this court "evaluate[s] whether the RGU took a 'hard look' at the salient issues, but defer[s] to the RGU's decision unless the decision reflects an error of law, is arbitrary and capricious, or is unsupported by substantial evidence." *Friends of Twin Lakes*, 764 N.W.2d at 381.

An agency decision is supported by substantial evidence when it is supported by (1) such relevant evidence as a reasonable mind might accept as adequate to support a conclusion; (2) more than a scintilla of evidence; (3) more than some evidence; (4) more than any evidence; or (5) the evidence considered in its entirety. *Minn. Ctr. for Envtl. Advocacy v. Minn. Pollution Control Agency*, 644 N.W.2d 457, 464 (Minn. 2002). An RGU's determination that an EIS is unnecessary is arbitrary and capricious if the decision

represents "its will, rather than its judgment." *Pope Cnty Mothers v. Minn. Pollution Control Agency*, 594 N.W.2d 233, 236 (Minn. App. 1999). Thus, a decision is deemed arbitrary and capricious if it (1) is based on factors that the legislature did not intend for the RGU to consider; (2) entirely fails to address an important aspect of the problem; (3) offers an explanation that conflicts with the evidence; or (4) is so implausible that it could not be explained as a difference in view or the result of the RGU's decision-making expertise. *Citizens Advocating Responsible Dev. v. Kandiyohi Cnty Bd. Of Comm'rs*, 713 N.W.2d 817, 832 (Minn. 2006).

Appellants argue that the administrative record reveals unanswered questions and a lack of information in the following areas necessary to make a reasoned decision regarding the potential for significant environmental effects to air and water quality: (1) aquifer/groundwater flow and direction; (2) groundwater quantity–well interference; (3) contamination of Jordan Aquifer; (4) impact of groundwater depletion upon surface waters; (5) air emissions–failure to consider cumulative impact of toxins and accurately model revised stack emissions; (6) impacts on Bear Creek; (7) greenhouse gases; and (8) leaks and spills. Thus, appellants argue that the decision not to require an EIS pertaining to the proposed ethanol plant was arbitrary and capricious and unsupported by substantial evidence.

I. Aquifer/groundwater flow and direction

Appellants argue that "[a]though the administrative record has some information regarding aquifer and groundwater flow and direction relevant to water quality, [the] MPCA did not give a sufficiently hard look at these issues given the overwhelming

evidence of [potentially significant environmental effects] submitted by reputable sources with significant background and experience." Appellants contend that in light of the lack of information on the issue, additional studies such as "dye tracing" and "modeling" should have been conducted to further examine the issue.

The MPCA responded to appellants' claims as follows:

> Dye tracing is not needed at the proposed MinnErgy site because of the high level of ground water protection afforded by the facility design and the operational requirements of permitting. . . . Dye tracing has been used to investigate specific incidents where spills or releases of contaminants have entered karst bedrock systems. Dye traces can show the direction and speed at which ground water moves through fractured bedrock. Additionally, dye traces require specific karst features, such as fractures and/or sinkholes, for dye introduction into the bedrock. There are no open or free draining karst features at the Project site that would allow for the introduction of dyes and water to flush the dye into the bedrock system. This makes dye trace study of the site impractical at this time. If dye tracing were to be done at the site, the most feasible and reasonable time would be during the facility excavation phase. After soils and bedrock have been excavated at the site, there could potentially be exposed karst features, which would allow for the introduction of dye into the site bedrock. Any dye trace study of the site should be limited to areas with the greatest potential for a spill to be released into the bedrock.

The MPCA's decision is supported by the record. Despite appellants' assertion to the contrary, the DNR did not believe that dye tracing was necessary. The DNR found that the "purpose of dye tracing is to identify flow path and time of travel, which can be useful for spill response." The DNR also found that "intensive site investigations and geophysics work at the proposed MinnErgy site provided information for site design to address potential spills." Thus, the DNR concluded that because spill response is the

responsibility of the MPCA, it "did not believe it was appropriate to recommend dye tracing." Moreover, a description of the spill prevention and containment measures incorporated into the design of the proposed ethanol plant is contained in the record. Accordingly, no further studies pertaining to aquifer/groundwater flow and direction were necessary.

II. Groundwater quantity–well interference

Appellants argue that an EIS is necessary due to the MPCA's lack of understanding of the groundwater supply in the area. Appellants contend that incomplete sampling and bad timing of the draw down pump tests by MinnErgy's consultants contributed to this lack of understanding, and prevented the MPCA from making a reasoned decision regarding the adequacy of groundwater to supply the proposed plant.

The record reflects that the time of the tests has little to do with the water level in the Jordan aquifer. Based on the isotopal analysis discussed before the MPCA Board, the water in the Jordan Aquifer has been beneath Eyota for 50 years. The analysis of the aquifer determined that the water recharges over decades, not months, rendering the timing of the draw-down pump tests irrelevant.

Appellants also contend that the water shortage experienced at the Granite Falls Ethanol Plant supports their claim that an EIS should be conducted here. In that case, an EIS was not conducted. The plant subsequently drained the aquifer, and a $10 million retrofit was required to draw surface water from the Minnesota River. But the record reflects that the Granite Falls plant involved an unmapped, unconfined, sand and gravel aquifer. In contrast, the Jordan Aquifer is a mapped bedrock aquifer "that underlies much

of Iowa, southeastern Minnesota, southeastern, south central, and southwestern Wisconsin, and the Upper Peninsula of Michigan." Thus, the prolific nature of the Jordan Aquifer is significantly different from the Granite Falls situation.

Appellants further contend that the sampling and data collected with respect to groundwater quantity was incomplete. But the record reflects that MinnErgy collected data from pump tests based on a DNR-approved plan. The tests involved 62 domestic wells, two municipal wells, and four abandoned wells within a 1.5 mile radius of the proposed plant site. The tests were conducted to reflect the plant's maximum water-usage rate, and the results revealed that none of the relevant aquifers were likely to be significantly impacted by the plant's water use. As John Dustman, principal hydrogeologist for Summit Envirosolutions, Inc. concluded in his report:

> An understanding of hydrogeologic principles help[s] in the effort to evaluate impacts of groundwater withdrawal for the proposed MinnErgy ethanol plant near Eyota . . . . Based on the large amount of water resources, the relatively little amount of water required for the project when compared to recharge and aquifer storage, and the number of protective layers that are present above the utilized aquifer, no significant impacts to groundwater resources were identified during the [EAW] process. Meaningful data will not be obtained by conducting a longer-term aquifer test – the results will be statistically the same as the previous test. Groundwater education should be expanded on a local citizen's and Board level to explain why this area is no different, and more protected, than other areas where larger projects withdrawing significantly more water were granted a non-declaration for the need of an [EIS].

Finally, appellants argue that the MPCA did not adequately investigate potential well interference. To support their claim, appellants refer to four complaints of well

interference that were received during the aquifer test period. But the record reflects that two of the complaints were caused by electrical-wiring problems, and the problem associated with the third complaint could not be determined because the property owner refused to permit the DNR on the property to inspect the well. Although the fourth complaint was "resolved by MinnErgy," meaning nothing more is known about the complaint, the record reflects that the complainant submitted a letter in favor of the ethanol plant. Thus, appellants' claim that the MPCA did not adequately investigate the potential for well interference is without merit.

III. Contamination of the Jordan Aquifer

Appellants contend that pumping the large amounts of water the plant requires for the production of ethanol from the pristine Jordan aquifer has the potential to "draw down" water from the overlying Galena aquifer. Because the Galena aquifer is known to be contaminated, appellants claim that the "draw down" will thereby contaminate the Jordan aquifer.

We acknowledge, as did the district court, that if a project like the one proposed here was proposed for the Minneapolis/St. Paul metro area, an EIS would be required under Minnesota law. *See* Minn. R. 4410.4400, subps. 1, 5 (2009). But despite the concerns raised by appellants, the MPCA found that the contaminated Galena aquifer and the pristine Jordan aquifer are hydraulically separated from one another by a confining layer of bedrock that would prevent any potential migration of pollutants from the upper aquifer to the lower aquifer. These findings are supported by the drilling records that substantiate the existence of an unsaturated layer in the sandstone between the two

aquifers that averages 25 feet in depth. This unsaturated layer of sandstone creates an "air gap in the ground-water column which hydraulically disconnects" the two aquifers and demonstrates that contaminated water is not leaking down from the Galena aquifer.

The separation of the two aquifers is also supported by water chemistry tests. Water samples were taken from both the City of Eyota's well, which draws from the Jordan aquifer, and a nearby calcareous fen, which is fed from the Galena aquifer. Comparison of the samples showed chemical differences indicative of disconnection between the two aquifers. Therefore, the MPCA's decision that the project will not have a significant environmental effect on the Jordan aquifer is supported by substantial evidence.

IV. Impact of Groundwater Depletion upon Surface Waters

Appellants contend that the proposed ethanol plant could "impact surface waters, including springs, seeps, and the headwaters of the creeks and rivers by depleting the supporting groundwater because the interaction between the groundwater and surface water would both deplete surface water and pull in contaminants from the surface waters." Appellants argue that an EIS is necessary because the MPCA did not focus on this issue in adequate detail during the EAW process.

Appellants' argument lacks merit. As addressed above, the record supports the MPCA's findings that the ethanol plant will not deplete the area groundwater. Moreover, strict standards are in place to prevent contaminants from reaching the surface waters. The plant will only discharge non-process wastewater, and studies conducted by MPCA staff experts revealed that any discharge does not have a reasonable potential to cause or

contribute to any violations of applicable water quality standards. The plant will also be required to comply with the terms of its discharge permit, which prescribes strict effluent limits, monitoring requirements, and reporting requirements in order to ensure that the quality of the plant's discharge is in continuous compliance with applicable environmental protection requirements. Therefore, the record supports the MPCA's findings that the relationship between the surface water and ground water presents no significant potential environmental effects.

V. Air Emissions

Appellants argue that the air emissions from the proposed plant will violate health standards and pose a cancer risk to farmers. Thus, appellants argue that an EIS is necessary because the MPCA failed to properly consider and analyze potential cancer risks from the proposed ethanol plant's air emissions.

The MPCA considered the risks associated with the project and, based on the data collected, concluded that there were no substantial cancer risks involved. In making its decision, the MPCA required an Air Emissions Risk Analysis (AERA) to compare the risks from the proposed plant to the risk goals developed by the United States Environmental Protection Agency (EPA) and the MDOH. Generally, the cancer risk goal for emissions from an individual plant is for all carcinogenic chemical risks, taken together, to be less than one chance in 100,000 of additional lifetime cancers. "If a project shows a risk in excess of these levels, [the] MPCA staff examines the project to determine whether further refinement, future investigation, or project modifications are

warranted." The AERA consists of a conservative estimate of the risk the plant proposes based on a worst-case scenario.

Here, the AERA report studied the cancer and non-cancer risks both for the proposed facility only and on a cumulative basis. The EAW noted that "the majority of the total [cancer] risk (about 2.5 in 100,000) is from monitored background sources." But the EAW's "MinnErgy Facility only" analysis also states that "[t]he estimated [cancer] risk . . . to a hypothetical farmer at that [maximum estimated cancer risk] location exceeds [the] MPCA's cancer risk goal of 1 in 100,000." The location of the "maximum estimated cancer risk" is east of the facility adjacent to the property boundary, and the study shows the maximum risk of the "hypothetical farmer" at that location to be 2 in 100,000.

Despite the AERA report documenting some risks associated with the project, the MPCA determined that the plant's "air emissions do not have a reasonable potential for a significant environmental effect on air quality." In reaching this conclusion, the MPCA recognized that the AERA was based on two worst-case exposure scenarios: (1) a residential scenario which assumes a person breathes the air 24 hours a day at the location of maximum modeled air-emissions concentrations and also eats vegetables grown at that location[1] and (2) a farming scenario which assumes, *in addition to the exposures described in the residential scenario above*, that the farmer raises and eats beef, pork, chicken, and consumes milk and eggs produced from animals raised on forage

[1] Notably, the estimated cancer risk from the ethanol plant to a hypothetical resident living just east of the proposed facility as depicted in the first scenario is less than the MPCA's 1 in 100,000 risk goal.

grown at the location of maximum predicted air-pollutant concentrations. The MPCA then noted that there are no residences at the area of maximum air emission concentrations and that based on the air dispersion modeling that MPCA required MinnErgy to complete, "the pollutant concentrations and corresponding cancer risks significantly diminish with distance from the property boundary" of the MinnErgy site.

The MPCA's decision is well-reasoned and supported by the record. The maximum estimated cancer risk location is at a place where there are no residences. Moreover, the cancer risk at the maximum estimated cancer-risk location is less than the 1 in 100,000 risk goal. It is only under the hypothetical farmer scenario that the cancer risk exceeds the 1 in 100,000 risk goal at the maximum estimated cancer-risk location. As the district court noted, the record shows that the hypothetical-farmer scenario is "unrealistic because it has been decades since farmers in Southeastern Minnesota actually lived in the manner the AERA exposure scenario posits: Raising on their own farms all or nearly all of the food items they consume." And, despite appellant's assertions to the contrary, the MPCA considered the proposed plant's projected emission in conjunction with background-air-pollutant levels and the cumulative air emission from nearby sources. These issues involve highly technical and scientific data, and reviewing courts presume that agency decisions are correct and show deference to an agency's conclusions within its areas of expertise. *See White v. Minn. Dep't of Natural Res.*, 567 N.W.2d 724, 730 (Minn. App. 1997), *review denied* (Minn. Oct. 31, 1997). Thus, in light of the deference afforded the MPCA, we conclude that the record supports the determination

that the proposed ethanol plant's air emissions will not have a reasonable potential for significant environmental effects on air quality.

Appellants also contend that the air-dispersion modeling used by the MPCA to measure air emissions is flawed because it fails to properly consider and explain the effect of the reduced stack height that was required due to the close proximity of the plant to the airport. Appellants argue that an EIS is necessary to consider the air emissions in light of the reduced stack height.

Paul Modorski, an Air Quality Specialist with the Natural Resource Group, testified at the November 2008 hearing that reducing the stack height two feet to comply with the FAA requirements would not violate air-quality standards. Specifically, Modorski testified as follows:

> I did revise the modeling to look at our impacts. And again, the increment is our most significant or most difficult thing to meet, which is 30 micrograms per cubic meter for a 24-hour standard. We are at 24.8. If we reduced that stack by two feet, we would still be below the 30 micrograms per cubic meter, we'd be at 25.5.

Thus, the MPCA did consider the revised stack requirements and there is no evidence that the revised stack requirements will have a reasonable potential for significant environmental effect on air quality.

VI. Impact on Bear Creek

Appellants argue that the MPCA inadequately analyzed thermal loading (heated water) and other pollutants flowing into Bear Creek from the proposed plant. Although appellants acknowledge that the DNR has not listed Bear Creek as a trout stream,

appellants contend that the plant will "negatively impact Bear Creek by increasing the temperature, thereby leading to the loss of Bear Creek as a coldwater resource."

Appellants' concern that the plant will negatively impact Bear Creek is unsubstantiated. The record indicates that, at most, the temperature of Bear Creek will increase 2.8 degrees Fahrenheit from cooling tower blowdown in the wastewater stream. The 2.8 degree temperature increase is "well within the allowance of the class 2B water quality standard" that prohibits a temperature increase of greater than five degrees. Moreover, any minor increase in temperature would not affect the creek's potential to be a trout stream. Not only is Bear Creek not designated as a trout stream, but the DNR advised the MPCA that Bear Creek is "not a candidate for trout stream designation." The record further reflects that the potential for pollutants in the wastewater stream to have significant environmental effects was determined to be minimal. Thus, the record supports the MPCA's determination that the project presents no potential for significant environmental effects on Bear Creek.

VII. Greenhouse Gases

Appellants contend that the EAW process pertaining to the proposed ethanol plant did not adequately address the issue of an increase in greenhouse gases (GHG's) from indirect impacts. Appellants contend that an EIS is necessary to study the indirect impacts of ethanol production, such as the potential that non-agricultural lands will be converted to sustain food production to replace land used to grow biofuels crops.

As a preliminary matter, the MPCA did address GHG emissions associated with the proposed plant. In addressing GHG's, the MPCA relied on the Argonne National

Laboratory's report on GHG emissions from ethanol production. The Argonne Study is a "lifecycle analysis [research] approach in which the energy inputs to feedstock production and associated emissions are also considered with the facility and vehicle emissions." Relying on the Argonne Study, the MPCA found that "a new, natural gas-fueled ethanol plant, such as the proposed Project, offers a lifecycle GHG reduction benefit of approximately 28 percent over the lifecycle GHG from the production of a similar amount of gasoline." Although the Argonne Study's conclusions are disputed by some other published studies, the MPCA recognized the disputes and found the Argonne Study to be more credible and "particularly useful" due to its common usage by state and federal agencies and public and private research institutions. The MPCA also noted that the study is "known to be impartial in its analysis of controversial issues." Thus, in light of the Argonne Study and the deference given to the MPCA on these highly scientific issues, the MPCA's findings pertaining to GHG emissions are supported by substantial evidence.

However, appellants are correct that the "indirect" environmental impact of ethanol industry-induced corn production appears to be relatively unknown. Indeed, the MPCA noted that:

> Like most current life-cycle models, it is widely acknowledged that the Argonne model does not go in depth on the handling of indirect land use changes. Current life-cycle analyses have not counted indirect land use changes because they are difficult to quantify. This is due to data gaps and other uncertainties, such as the effect of future policies and prices on land uses. Researchers will need to develop reliable data and an agreed-upon approach to deal with land use changes.

We agree, as did the district court, that, "[i]n light of the possibility that the science will further develop on this topic, it *may* have been reasonable for [the MPCA] to order an EIS for the specific purpose of incorporating new analytical models that reflect indirect land use conversions." But at this point, it would be impractical to order an EIS for the purpose of studying the indirect impacts of the proposed ethanol plant. Such a study would necessarily exceed the impacts of this particular plant by studying the long-term effects of ethanol production in general. The record shows that it would likely be decades before reliable data on the subject would be available. Moreover, such a study would inevitably involve political and economic issues far beyond the scope of an EIS. The MPCA decided not to order an EIS on the basis that it is questionable whether and when reliable data will be available. On this record, we cannot conclude that the MPCA's decision not to order an EIS pertaining to GHG emission was arbitrary and capricious.

VIII. Leaks and spills

Appellants argue that an EIS is necessary because the potential for environmental harm from chemical leaks and spills at the site has not been adequately evaluated, particularly in light of the karst geology underlying the proposed plant. But the record is replete with evidence supporting the MPCA's conclusion that the project does not have the potential for significant environmental effects due to leaks and spills. The record reflects that the ground beneath the proposed plant will not collapse under the structures and that in the unlikely event that fractures or cavities in the bedrock are encountered during construction, specific plans are in place to address that contingency. Moreover,

the record reflects that the plant has numerous safeguards in place to prevent spills, such as: (1) above-ground storage tanks; (2) secondary-containment structures that are specially lined and large enough to hold 110% of the contents of the largest tank on the site; and (3) no underground piping. The record also reflects that product loadout will be carried out on impervious surfaces that are sloped to ensure that any spills will drain to a containment structure designed to handle spills. The record further reflects that the plant has adequate personnel and equipment on-site to respond to and handle a potential spill. Accordingly, the record supports the decision that there is no potential for significant environmental harm from leaks or spills at the proposed site.

Based on the record before us, the MPCA's decision not to order an EIS is supported by substantial evidence and is not arbitrary and capricious.

Affirmed.