Comments on the MGE/UW West Campus Energy Plant EIS

Case Number 05-CE-121

Jeff Schimpff
2721 Kendall Avenue
Madison, WI 53705
April 24, 2003

Dear Ms. Stemrich,

Please add these comments to the public record for this case. I assert that this Draft EIS is not adequate as a public disclosure and decision-making document, and fails to meet the requirements of Wis. Stat. 1.11, "Governmental consideration of environmental impact," as codified in Wis. Admin. Code NR 150, because it:

1. Omits important information regarding the existing air quality of the project area, and the attendant health risks and damages experienced by its residents.

2. Relies upon existing U.S. EPA and Wisconsin DNR air quality standards in evaluating health impacts, yet omits relevant discussion concerning the inadequacy of these standards.

3. Fails to adequately address reasonable alternatives to the proposed project that would reduce its environmental impacts

Additional information concerning these points follows.

Overall, this EIS appears to be a standard PSC document for evaluating any proposed, typically rural, energy plant project. However, this particular project cannot be adequately evaluated using this standard format. The location of this project is not a standard rural location. This is a densely populated urban area. Moreover, this is a densely populated urban area that is already significantly impacted with unhealthy levels of air pollutants. This urban area also is home to more than 2,150 public school children who suffer from asthma, and to many other private school and pre-school children, as well as adults, who also suffer from this - or related - chronic respiratory conditions.

For many of these young people and adults, depending upon where they live and other factors, existing levels of pollutants pose an unacceptable and unwarranted health risk. Yet, this document fails entirely to disclose these relevant facts. This document therefore fails to inform decision-makers and affected citizens of information that is essential to both regulatory and personal decisions.

DNR and PSC editors in fact removed this student health status and health impact information from an earlier draft of the document. There is a cluster of asthma

incidences in close proximity to both the proposed project and University Avenue setting. This information needs to be included in the final draft.

Point 1. Existing Air Quality and Impacts

An EIS must not be limited only to that information which is relevant to agency permit evaluation. As a public disclosure document, an EIS needs to include all information reasonably related to existing conditions and proposed actions that can impact people in the vicinity of the proposed project area. In this instance, medical epidemiological studies and histological or tissue studies lead to the reasonable conclusion that the project area already is significantly affected by the types of pollutants that would be emitted by the proposed project. Some point to pollutants in the origin of asthma, and scores conclude pollutants cause lung tissue inflammation that leads to or worsens asthma episodes.

This information needs to be included for the benefit of elected officials and other decision-makers, even if it is not directly related to agency permit decisions. In this particular case, this air quality information is necessary to enable decision-makers to evaluate whether to act upon the "precautionary principle." That is, in the face of strong evidence of existing health risk or harm, should they take action to remedy that harm before even considering to worsen it by constructing and operating the proposed project?

I have furnished DNR Air Management program staff a document containing a large number of health studies that point out that existing traffic and pollutant levels are placing residents of the project area at a considerable risk not faced by the balance of Dane County residents. Included here are a few of those:

Dr. David Bates, among others, notes the overall effects of particulates and ozone:

Bates, David Vincent. Introduction. IN: Air Pollution and Health, Holgate, Stephen T. et al, eds. Academic Press, San Diego, 1999. The fact that ozone aggravates asthma is "an effect still ignored in much contemporary literature." Fine particulates cause decreased lung function in children, increased hospital admissions for respiratory disease, aggravation of asthma, and increased school absences.

This study found impacts to kids living within 500 meters of a road with more than 24,000 vehicles per day (vpd). University Avenue has about 60,000 vpd:

Edwards, J., S. Walters, et al. Hospital Admissions for Asthma in Pre-School Children: Relationship to Major Roads in Birmingham, United Kingdom. Archives of Environmental Health 49:223-227 (1994).
This study examined the relationship between residence near major roads, traffic flow, ans risk of hospital admission for asthma in children younger than 5 years of age living in Birmingham, United Kingdom. Area of residence and traffic flow patterns were compared for children admitted to the hospital for asthma, children admitted for non-respiratory reasons, and a random sample of children from the community. Children

admitted with an asthma diagnosis were significantly more likely to live in an area with high traffic flow (>24,000 vehicles/24 hours) located along the nearest segment of main road than were children admitted for non-respiratory reasons ($p < .02$) or children from the community ($p < .002$). A significant linear trend was observed for traffic flow ($p < .006$) for children living less than 500 meters from a major road but not for those living farther away. Children admitted for non-respiratory reasons were more likely to the admitted than children in the community sample if they lived within 200 meters of a main road ($p<.02$), irrespective of traffic flow.

This study found impacts within 180 yards of roads with as few as 14,000 vpd. Residents along the University Avenue corridor live within 75 feet of approximately 60,000 vehicles per day:

English, Paul, R. Neutra, et al. Examining Associations between Childhood Asthma and Traffic Flow Using a Geographic Information System. Environmental Health Perspectives 107:9, Sept. 1999, pp 761-766. "The results of this exploratory study suggest that higher traffic flows may be related to an increase in repeated medical visits for asthmatic children. Repeated exposure to particulate matter and other air pollutants from traffic exhaust may aggravate asthmatic symptoms in individuals already diagnosed with asthma." Researchers compared health data to traffic volumes in San Diego County, CA. Traffic volumes potentially causing health impacts ranged from 34,000 to as few as 14,000 vehicles per day, when they were within 169 m (550 feet) of children's homes. Paul English - Impact Asessment, Inc., 1515 Clay St., Ste 1700, Oakland, CA 94612, 510-622-4508, popn01@sirius.com;; Ray Neutra - Div. Envir. & Occup. Dis. Control, CA Dept. Health Serv., Oakland; Lance Waller, Li Zhu - U MN Sch. Pub. Health, Mnpls.

Symptoms occur from concentrations well below European standards (they're not exactly the same as ours):

Forsberg B, Stjernberg N, Wall S. People can detect poor air quality well below guideline concentrations: a prevalence study of annoyance reactions and air pollution from traffic. Occup Environ Med 54(1):44-8 (Jan. 1997). OBJECTIVES: Motor vehicle exhaust fumes are the main source of atmospheric pollution in cities in industrialised countries. They cause respiratory disease and annoy people exposed to them. The relation between ambient exposure to air pollution mainly from motor vehicles and annoyance reactions in a general population was assessed. Also, the importance of factors such as age, sex, respiratory disease, access to the use of a car, and smoking habits on the reporting of these reactions was studied. METHODS: A postal questionnaire was sent out in 55 urban areas in Sweden that had nearly identical air quality monitoring stations of the urban air monitoring network. From each area, 150 people aged 16-70 were randomly selected. The questionnaire contained questions on perception of air quality as well as a question on how often exhaust fumes were annoying. RESULTS: Six-monthly nitrogen dioxide concentrations correlated consistently with the prevalence of reported annoyance related to air pollution and traffic exhaust fumes. Black smoke and sulphur dioxide had no significant effects. The frequency of reporting annoyance reactions was higher among people with asthma, women, and people with lack of access to a car. CONCLUSIONS: In

this study town dwellers could detect poor air quality at concentrations well below current guidelines for outdoor air pollution. This suggests that questionnaire studies have a place in monitoring air quality. Department of Epidemiology and Public Health, Umea University, Sweden.

This study showed a leukemia/cancer rate 6 times higher for kids living up to 750 feet from streets with 20,000 or more vehicles per day:

Pearson, Robert, H. Wachtel and K. Ebi. Distance-Weighted Traffic Density in Proximity to a Home is a Risk Factor for Leukemia and Other Childhood Cancers. Journal of the Air and Waste Management Association, 50:175-180, Feb., 2000. "…homes adjacent to street corridors carrying 20,000 or more vehicles per day had a roughly six-fold increase in risk for children contracting cancer, including childhood leukemia." This corellation holds for homes up to 750 feet away from high-traffic corridors, where the exposure will be "far above 'ambient background' for the community." Researchers observe that "…benzene and other organic compounds from vehicle exhaust may initiate cancer in children..." Occupational exposure to elevated concentrations of benzene is known to cause leukemia in adults.
Robert Pearson, Radian International, 707 17th Street, Ste 3400, Denver, CO, 80202, 303-292-0800.

Effects in general have been documented, without references to distances or traffic volumes:

Pope, CA III. Epidemiology of Fine Particulate Air Pollution and Human Health: Biologic Mechanisms and Who's at Risk? Environmental Health Perspectives 108(Suppl. 4):713-723 (August 2000). Fine and ultrafine particulates are primarily due to fossil fuel combustion by humans. These smallest particulates are far more dangerous to human health than larger particles derived from wind-blown soil and other earth-generated materials. The elderly, infants, and people with chronic respiratory disease such as asthma "are most susceptible to mortality and serious morbidity effects" from short-term exposure to high concentrations of particulate. Chronic exposure (long-term, to lower concentrations of particulate) can cause cardiopulmonary disease, reduced lung function, and a shortening of life by up to about 3 years.

Madison is a "Minneapolis Lite" so far. Madison PM10 levels should be highlighted in the EIS and evaluated in light of this study:

Schwartz Joel. et al. Particulate Air Pollution - An Independent Cause of Mortality. European Respiratory Journal. October, 2000. Studies in both Europe, and now the United States, conclusively demonstrate that air pollution at concentrations below current health standards has a harmful effect on the human lung. Minneapolis, MN, air had the highest risk factor of the five cities studied. Daily mortality increases 1.3% for every 10 ug/m3 increment in fine particulate (PM10) pollution. Disparities in the risk level among cities studied is most likely due to the differences in particle composition from one city or region to another. Average concentrations of PM10 were about 30 ug/m3 in

the five cities, whereas the health standard is 150 ug/m3. These findings indicate that the PM10 health standard is not adequate to protect public health. [Joel Schwartz, Harvard School of Public Health.]

Madison asthma rate is tied to traffic increases:

Sensenbrenner, Lee. Traffic increases spur air pollution concerns. The Capital Times, Jan. 25, 2002 (http://www.captimes.com/news/local/10383.php). Air pollution in Madison is on the verge of exceeding federal health guidelines for ozone and particulates, yet in the city automotive traffic increases continue to outpace population growth. "A large majority of our air quality issues are related to traffic," said John Hausbeck, an environmental epidemiologist for the department, who released a report Thursday.

Most of the growth in automotive travel has occurred on the highways that surround and feed into Madison, according to the report. The number of vehicles traveling on highways that run through Madison rose from about 225,000 to about 255,000 per day between 1995 and 2000, the report said. That's an increase of about 14 percent. The number of vehicles on arterial streets in Madison rose in the period from about 130,000 to about 145,000 per day, up 11 percent.

Between 1995 and 2000, city population grew 4.3 percent, from 199,518 to 208,054 residents.

Ozone levels during the last 10 years have fluctuated, and last exceeded National Ambient Air Quality Standards in 1996. Since then, monitoring has shown average ozone levels just below federal guidelines.

According to data from the Madison Metropolitan School District, the number of students with asthma has tripled from about 3 percent of the population to about 9 percent in the last 15 years.

This study found significant impacts at Beltline-level traffic volumes:

van Vliet, P., Knape, M, et al. Motor vehicle exhaust and chronic respiratory symptoms in children living near freeways. Environ. Res. 74(2): 122-132 (1997). To examine whether motor vehicle exhaust from freeways has an effect on respiratory health of children, a cross-sectional study was conducted. Children attending schools situated less than 1000 m from major freeways in the Province of South Holland were asked to participate. The selected freeways carry between 80,000 and 150,000 vehicles per day. Separate counts for truck traffic indicated a range from 8000 to 17,500 trucks per day. At a total of 13 schools, 1498 children were asked to participate. From these children, 1068 usable questionnaires were obtained. Chronic respiratory symptoms reported in the questionnaire were analyzed with logistic regression. Distance from the freeway and (truck) traffic intensity were used as exposure variables. Cough, wheeze, runny nose, and doctor-diagnosed asthma were significantly more often reported for children living within 100 meters of the freeway. Truck traffic intensity and the concentration of black smoke

measured in schools were found to be significantly associated with chronic respiratory symptoms. These relationships were more pronounced in girls than in boys.Wexler, A. and R. Sarangapani. Mechanisms of Particulate Damage to Lungs. Journal of Aerosol Science and Technology. (Summer, 1999). Fundamental Applied Toxicology)No Date). Clumps of ultrafine pollutant particles (.1 to 1 microns diameter) scatter throughout the lungs. The particles absorb water from the moisture in the lung, until they are large enough to deposit and cause damage to lung tissue. Motor vehicle exhaust and power plant emissions are chief contributors of ultrafine particles. Tony Wexler: 302-831-8743; Ramesh Sarangapani: 919-547-1701; William Chameides: 404-894-1749 (wialliam.chameides@eas.gatech.eud (director of EPA "Supersite" particulate study re: health effects and sources)

Health impacts found at UniversityAvenue-level volumes:

Wjst, M., P. Reitmeir, et al. Road Traffic and Adverse Effects on Respiratory Health in Children. British Medical Journal 307:596-600 (Sept. 4, 1993).
OBJECTIVES—To examine whether road traffic in a big city has a direct effect on pulmonary function and respiratory symptoms in children.

SETTING— Of the fourth grade children with German nationality and the same residence during the past five years and known exposure data, 4678 questionnaires and 4320 pulmonary function tests were analyzed.
RESULTS -- In this cross-sectional study, density of car traffic ranged from 7000 to 125,000 cars per 24 hours. Multiple regression analysis of peak expiratory flow showed a significant decrease of 0.71% (95% confidence interval 1.08% to .33%) per increase of 25,000 cars daily passing through the school district on the main road. In contrast, response to cold air challenge was not increased. The adjusted odds ratio for the cumulative prevalence of recurrent wheezing with the same exposure was 1.08 (1.01 to 1.16). Cumulative prevalence of recurrent dyspnoea was increased, with an odds ratio1.10; 1.00 to 1.20). Lifetime prevalence of asthma (odds ratio 1.04; 0.89 to 1.21) and recurrent bronchitis (1.05: 0.98 to 1.12) were not significantly increased.
CONCLUSIONS--High rates of road traffic diminish forced expiratory flow and increase respiratory symptoms in children.

This principle applies to traffic and gas-fired power plants as producers of particulates, and not just coal-fired plants:

Wexler, A. and R. Sarangapani. Mechanisms of Particulate Damage to Lungs. Journal of Aerosol Science and Technology. (Summer, 1999). Fundamental Applied Toxicology)No Date). Clumps of ultrafine pollutant particles (.1 to 1 microns diameter) scatter throughout the lungs. The particles absorb water from the moisture in the lung, until they are large enough to deposit and cause damage to lung tissue. Motor vehicle exhaust and power plant emissions are chief contributors of ultrafine particles. Tony Wexler: 302-831-8743; Ramesh Sarangapani: 919-547-1701; William Chameides: 404-894-1749 (wialliam.chameides@eas.gatech.eud (director of EPA "Supersite" particulate study re: health effects and sources)

Re: Particulate Inflammation Mechanism that likely has a role in asthma and other diseases:

Li, Ning, Andre Nel, et al. 2003. Ultrafine Particulate Pollutants Induce Oxidative Stress and Mitochondrial Damage. Environmental Health Perspectives 111(4): 455-460.

A team of Southern California researchers has discovered that microscopic airborne particles can disrupt the inner mechanics of cells, offering a possible explanation of how air pollutants common in urban haze can harm the human body.

The new study, led by scientists at UCLA and USC, links the most minuscule particles found in dust and smoke to injuries. The particles are so small -- about 1,000 could fit inside the period at the end of this sentence -- that they easily bypass the body's defense mechanisms.

The findings also are the first to show that very tiny particles travel beyond the lungs and bloodstream to penetrate deep inside cells. The pollutant accumulates within a critical component that powers the cell and maintains its function. Damage to that cellular component is known to lead to an assortment of diseases.

Researchers have long known that haze over cities causes a wide range of health problems. Numerous studies worldwide have linked particle pollution to school absences, hospital admissions, shortened life spans, reduced lung function, heart disease and cancer.

But researchers have been unsure what types of particles were to blame for the health effects. "We have had no idea of the biological potency of different size particles in the air," said UCLA researcher Andre Nel, a physician and lead author of the study. The new research "may be a mechanism to explain how the smallest particles cause adverse health effects," he said.

Particulate consists of microscopic bits, ranging from pulverized tire fragments to diesel soot to acid droplets, and is measured in microns, a unit equivalent to a millionth of a meter. A human hair is about 50 microns across.. The smallest particles come mainly from burning fossil fuels. Those tiny particles float in the air longer, travel farther and are more easily inhaled than larger
ones.

In their study, the team of 10 scientists collected particles in various sizes from polluted. The pollution was concentrated, put into solution and added to two types of cells. One group of cells included macrophages taken from mice. A macrophage is a type of cell that scavenges and destroys foreign matter in the lung and other organs. The other cells were taken from the lining deep inside a human lung. The scientists then measured chemical reactions in the tissues and
examined the cells with an electron microscope.

The researchers found that when the particles come in contact with the cells, they trigger a reaction that causes inflammation. That may help explain how particle pollution exacerbates asthma, an inflammation of the airways, Nel explained.

Deeper inside the cells, researchers found that the one-tenth-of-a-micron particles accumulated inside cell structures called mitochondria. Oblong in shape, mitochondria are the workhorses of cells. They combine sugar and oxygen to produce the fuel that keeps cells
running.

The study shows that the pollution damaged the shape of mitochondria, causing them to stop producing the cellular fuel and start producing other chemicals, which lead to more inflammation and cell damage.

"The mitochondria of a cell is like a cell's battery. Once you damage the mitochondria, you're going to kill the cell," said Melanie Marty, chief of air toxicology and epidemiology at the
California Office of Environmental Health Hazard Assessment. "This shows the ultra-fine particles are better at causing damage, and we should be paying more attention to ultra-fine particles because of their toxicity and ability to produce this stress in the cell."

Fernando Scaglia, a professor in the department of molecular and Human genetics at Baylor College of Medicine in Houston who has read the paper, said damage to mitochondria in cells can lead to various diseases, including Parkinson's and Alzheimer's, as well as strokes and other neurological impairment. Damage to mitochondria, he said, can increase over time as
Cells divide, leading to a breakdown of cell function and early onset of disease.

It is clear from these and a host of other health studies that residents of the project area, especially children, are already at significant risk of elevated incidences of respiratory disease and cancers. This conclusion needs to be restored to the EIS.

Point 2. Inadequacy of Existing Air Quality Standards

The EIS concludes that the new annual average concentration of fine particulate would still be below the federal average annual standard. However, both the existing and modeled operational concentrations exceed the health hazard levels (based on traffic volumes) identified in numerous studies, and also exceed the new California average annual standard for fine particluates (12 ug/m3). (See
http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm for additional information on the California standards.)

The EIS concludes that the new 24-hour concentration of fine particulate would still be below the federal 24-hour standard. However, both the existing and modeled operational concentrations exceed the recommended 24-hour fine particulate level (25 ug/m3) under

consideration in California. (Again, see http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm for additional information on the California standards.)

The EIS concludes that the operation of the proposed plant would not cause an exceedance of the annual 8-hour ozone standard. However, Canadian researchers have proposed a more protective ozone standard of 50 ppb for use in that nation, compared to the 80 ppb standard in the U.S. The U.S. standard is set in a manner that does not provide 100% protection to 100% of the exposed population. The Canadian proposed standard is based in part upon the results of health studies published too late for consideration prior to the adoption of the EPA standard (1997). The existing background ozone concentration already far exceeds the proposed Canadian standard.

Following are two one of several studies that point to the inadequacy of current health standards:

Bates, David Vincent. Air pollution: time for more clean air legislation? BMJ 312:649-650 (16 March 1996). Ozone and fine exhaust particles make asthma worse. The industrial world has been so successful at dealing with smoke pollution that the avalanche of recent work showing that fine particles in the atmosphere are damaging health has come as an unwelcome surprise. Dockery and Pope published a summary of this evidence in 1994. Since then more confirmatory evidence has appeared, and the conclusions have been independently validated. Further material appeared from Britain's Department of Health in a comprehensive review of non-biological particles and health, and the Department of the Environment has recommended a new standard of 50 µg/m3 for a 24 hour period for particles less than 10 microns in size (generally known as PM10). Achieving this new standard will set a considerable challenge for transport authorities in Europe and North America. The solutions may need radical new policies for urban transportation. Other regulatory and advisory agencies are engaged in a frenzy of activity as they consider the impact of the epidemiological evidence.
Professor emeritus of medicine Department of Health Care and Epidemiology, University of British Columbia, Vancouver, BC, Canada V6T 1Z3.

"Fairley, David. Daily Mortality and Air Pollution in Santa Clara County, California: 1989-1996. Environmental Health Perspectives 107(8): 637-641. The San Francisco Bay Area, including Santa Clara County, met every ambient air quality standard in effect during the study period. According to modeling studies, the County also met the new (1997) 15 ug/m3 fine particulate (PM2.5) standard, as well as the 8-hour O3 standard. In San Jose, PM2.5 levels averaged 25 ug/m3 Nov.-Jan., but less than 10 ppb/m3 the other nine months of the year. Even though the area met the regulatory concept of "clean air," there remained statistically significant correlations between the regulated pollutants and mortality. This suggests that current national air quality standards (including the 1997 standards), especially for particulates, may not be adequate for protecting public health in the Bay Area, and may or may not be protective in other areas of the country. Dfairley@baaqmd.gov; 415-749-4741. Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, CA 94109. "

It is clear from the health studies that triggered the above government actions that relying only on EPA air quality standards does not adequately protect human health – especially children/s health. This information needs to be included in the EIS.

Even citizens of Las Vegas, Nevada, a place not typically viewed as a haven for the health-conscious, are recognizing that people must be better protected from air pollutants. They are opposing a proposed major commuter highway expansion, due to concerns over health impacts of traffic pollutants. This opposition is based in large part on the recognition by health studies that existing standrads are not adequately protective of human health.

Fine particluates "are able to evade the body's natural defenses and migrate deep into the lungs," where they impair lung function and exacerbate a variety of respiratory diseases. They can drift thousands of kilometers and their ability to absorb and reradiate heat from the sun makes them a contributor to 15% to 30% of the planet's total global climate change effect. A National Institute for Environmental Health Sciences study found that "the number of deaths from lung cancer increases 8% for every 10ug/m3 PM 2.5." Health risk factors such as these compelled the ***Wisconsin DNR human health specialist (Jeff Maiers) to conclude in 1999, "I would not live within a mile of either University Avenue (in the proposed project area) or the [South] Beltline [Highway (in Madison)]."***

There is strong reason to conclude, as other agencies have, that existing health standards are not an adequate gauge with which to measure the impacts of the proposed project, and this needs to be highlighted in the EIS.

Point 3. <u>Alternatives</u>

The EIS needs to address a wide range of related, comprehensive alternatives. These should include, at a minimum, the following:

1. Evaluating the impact of raising the exhaust stacks another 25 to 50 feet. The previous air quality attainment strategy seems to have been to do only the bare minimum to meet air quality standards.

2. A framework for and evaluation of a comprehensive, regional transportation program, in cooperation with the City of Madison, Dane County, and regional employers. Establish a "No Net Parking Increase" policy on UW campus, and reduce parking by moving planned Lot 76 ramp capacity to Middleton light rail stop and possibly other outlying sites (Hilldale – Owned by UW Foundation; Westgate; West Towne; East Towne: all largely vacant until after 4:00 p.m..) Setting a maximum number of commuter parking spaces county-wide is a key to limiting transportation pollutants in the project area, as University Avenue is used heavily as part of a cross-county commuter route. The proposed commuter rail system is a step in the right direction. However, at the 5,000 passenger per day volume I recently ready about, its air quality and congestion mitigation benefits would be vastly overwhelmed by UW's BioStar

parking construction alone, within 3 to 7 years - most probably before even a limited rail system is in operation. UW and MGE cooperate with Madison and Dane County on planning and financing a cost-effective, fast and efficient commuter/light rail system that will result in a decrease in transportation pollutants in the University Avenue corridor.

3. More aggressive and detailed policies for energy conservation in the construction and operation of new buildings, both campus-wide and service area-wide. This must include conserving energy in getting people to these buildings, by eliminating 1 or more parking spaces elsewhere on campus for every space included with each new or remodeled building.

4. A major increase in MGE's investment in wind power. A map of potential wind energy sites in Wisconsin shows that northwest Dane County has fairly high potential for wind energy. While there are some negative aspects of wind farms that need to be overcome, about 100 turbines of the size installed about 15 miles west of Dodgeville would generate the 150 MW of the proposed UW plant, under favorable wind conditions. Transmission distance is about 15 miles less than for the large amount of electricity brought into Madison by MGE from the Columbia plant at Portage. What impact would this generation have on the need to operate the proposed plant or a scaled-down plant, and on the air emissions saved by not operating a gas-fired plant during good wind-energy production conditions?

Iowa is well on its way to tap wind resources, as noted in "Hawkeyes on the Prize." "Iowa will soon be home to the world's largest land-based wind farm if MidAmerican Energy Company has its way. The power company plans to erect between 180 and 200 turbines capable of generating 310 megawatts of electricity and powering some 85,000 homes. If approved by the Iowa Public Utilities Board and state lawmakers, the $323 million project would be completed in 2006 and would surpass a 300-megawatt project on the Oregon-California border. The project would place Iowa third in the nation for wind-generated power, behind Texas and California; all told, the U.S. had a total wind-generation capacity of 4,700 megawatts by the end of last year. Gov. Tom Vilsack (D) backs the Iowa project, saying it would support his goal of increasing renewable energy sources and creating jobs. It would
also help farmers, who would get $4,000 per year for each turbine located on their property.

(Source: MSNBC.com, 26 Mar 2003).

There are viable alternatives to a 150 MW plant that need to be evaluated in the EIS.

Point 4. Availability of Low-Sulfur Diesel Fuel.

MGE notes it would use low-sulfur fuel as a back-up fuel. However, the EIS neglects to mention that adequate stocks of such fuel will likely not be available until one or two years after the facility is planned to begin operation. (See "Refiners should have no problem producing nearly sulfur-free diesel by 2006." Las Vegas Sun, Associated Press, H. Josef Hebert, 30 Oct 2002.)

Thank you for considering these comments.

Sincerely,

Jeffrey A. Schimpff