

DATE: April 24, 2004 FILE REF: 4560

TO: Lloyd Eagan – AM/7

FROM: Brad Pyle – SCR – Air Management Program

SUBJECT: Summary of and Responses to Public Comments on the Air Pollution Control Permit Application for Madison-Kipp Corp., Madison, Dane County (Permit #03-POY-328)

On February 6, 2004, DNR held a public hearing concerning the proposed air pollution control construction and operation permits #03-POY-328 and #03-POY-328-OP for the proposed modification of the RCI-1 AND RCI-2 aluminum melting furnaces for Madison-Kipp Corporation. DNR was represented at the hearing by Bradford Pyle, and Marcia Penner. 44 appearance slips were filed at the hearing, 3 in favor, 33 opposed, 2 as interest may appear, and 6 did not check any box.

DNR has carefully reviewed and considered all comments it has received. This memo summarizes and responds to all written comments received during the 30 day public comment period, extended comment period, and verbal comments received at the public hearing for these permits.

## **PUBLIC HEALTH**

1) Comment –Many people are concerned that their health problems are caused by Madison-Kipp Corp. Some people are constantly in fear of emissions from Kipp. Many people fear the effects of these emissions on their family and neighbors. Some people mentioned knowing of people who have died or had severe illness in the neighborhood.

Response - All health related comments received at DNR have been forwarded to the Madison Department of Public Health. The Madison Department of Public Health has not received evidence of human illness that would be sufficient to support a health study despite requests by the neighborhood. No ambient air quality exceedance attributable to Madison-Kipp Corp. has ever been recorded at the particulate monitor near the facility. Madison-Kipp Corp. is required to maintain records to show that all emission limits and permit conditions (set to protect the health and welfare of the public) are being met.

2) Comment Air pollution rules are 30 years old and do not protect the health of our diverse population.

Response Under the Clean Air Act, EPA establishes air quality standards to protect public health, including the health of "sensitive" populations such as people with asthma, children, and the elderly. The ambient air quality standard for Total Suspended Particulates (TSP) is a state of Wisconsin standard and is set to protect human welfare, such as preventing soiling or nuisance dust conditions.

## **ODORS**

Comment - The odor problems associated with Madison-Kipp have not been resolved. DNR should further investigate the source of odors.

Response - An odor survey was conducted in the area around Madison-Kipp Corporation in the fall of 1999. Section NR 429.03(2)(b), Wis. Adm. Code, is the rule that gives DNR the authority to conduct such an odor survey. The survey did not result in the conclusion that Madison-Kipp Corporation is in violation of s. NR 429.03(1), Wis. Adm. Code.

## **NOISE**

DNR does not regulate noise.

## **PUBLIC COMMENT PERIOD**

Comment The comment period should be extended.

Response The comment period was extended.

## **PUBLIC HEARING TIMING**

Comment Need for more accessible public hearing. Request for additional hearings.

Response No additional hearings will be held for this permit action.

## **PROPERTY DAMAGE**

Comment - My house has been soiled by Madison-Kipp's emissions. I have to clean the inside and outside regularly.

Response - To date, and after extensive sampling, DNR has no evidence that Madison-Kipp Corp. has caused such conditions.

## **DNR AUTHORITY TO REGULATE AIR POLLUTION**

1) Comment I ask the DNR to oblige Madison-Kipp to provide to the public all internal memoranda related to their proposal so as to: 1) establish their motivation and rationale for requesting a five-fold increase in particulate emissions; 2) establish their motivation for reducing chlorine use but not chlorine emissions; 3) make public the MKC cost-benefit analysis for changing emission levels; 4) demonstrate on-going insurability to cover all liability and damage claims from area residents in the event of adverse consequences of plant operation; 5) account for their present violation of environmental regulations; and 6) demonstrate an attitude of compliance with environmental regulations.

Response DNR has no authority to require Madison-Kipp to produce internal memoranda. Madison-Kipp has requested the particulate matter emission limitations allowed by Wisconsin Administrative Code. The permit, as proposed, brings Madison-Kipp into compliance with emission limits for particulate matter and aluminum salts.

2) Comment Need for evaluation of air quality standard for PM 2.5. The DNR needs to conform to the "stricter rules for particulate emissions adopted by the federal [EPA] in 1997" and enforce these rules for the good of the Shenk-Atwood community and the greater Madison area.

Response The air quality standard for PM 2.5 has been proposed to be adopted by the State of Wisconsin. The state has to first adopt the standard in a Wisconsin rule before it can establish any emission limits based on the standard.

3) Comment Reduce emissions with filters.

Response DNR has no authority to require filters.

4) Comment The neighborhood should be able to vote on whether Kipp should be able to have increased allowable emissions. Passage without approval of the neighborhood leads to adversarial relationship

Response The Criteria for Permit Approval in Section 285.63, Wis. Stats., sets forth the specific criteria that must be met for a permit to be approved. DNR must issue a permit if DNR finds that: the source will meet emission limitations;  
the source will not cause nor exacerbate a violation of an air quality standard or ambient air increment and the source will not preclude the construction or operation of another source for which an air pollution control permit application has been received.

5) Comment Before any permit is issued, I would like DNR to complete additional testing of the furnace discharges. There is a need for more rigorous testing and monitoring.

Response DNR has determined at this time that further testing and monitoring is not necessary.

6) Comment I am upset that the Department of Natural Resources appears to be reluctant to play a strong monitoring or regulatory role with respect to the Kipp factory. I ask the DNR to bring all of its expertise, earnest good efforts, and regulatory authority to bear on the issues so as to guarantee that ALL environmental dimensions of MKC's current operation and projected operation be made transparent and subject to the highest level of public and scientific scrutiny. What can we do or say to get the DNR to exercise it's authority?

Response DNR has exercised its authority by: issuing permits to regulate Kipp's emissions, requiring testing of emissions, and issuing a Notice of Violation when emissions were excessive. DNR believes that Kipp will be in compliance with air pollution laws when the new permit is issued.

8) Comment Kipp has received multiple permits in the last several years which have authorized incrementally higher amounts of emissions. I have to believe that if these requests were presented as part of one application, DNR would require a higher level of abatement than has been the case with the several smaller requests. I believe that DNR should consider this application in the context of all Madison Kipp's recent expansions and require that higher level of compliance.

Response DNR would not have had the authority to require a higher level of abatement if all the permit requests had been combined. DNR would have allowed the proposed higher emission limits if Madison-Kipp had requested them to begin with.

9) Comment Please consider Kipp's impact on indoor air pollution

Response DNR does not regulate indoor air pollution or pollution inside of buildings.

#### **VIOLATION OF PERMIT LIMITATIONS AND AIR QUALITY STANDARDS**

1) Comment Before any permit is issued, I would like DNR to issue an NOV to Kipp for current violations.

Response – A Notice of Violation was issued to Kipp on February 2, 2004

2) Comment Madison-Kipp has exceeded air quality standards for over 3 years.

Response DNR has no information to support the claim that Madison-Kipp has exceeded air quality standards. No ambient air quality exceedance attributable to Madison-Kipp Corp. has ever been recorded at the particulate monitor near the facility. DNR has determined that no ambient air quality standard was exceeded during the recent testing that resulted in the Notice of Violation issued to Kipp on February 2,

2004.

3) Comment I ask the DNR to clarify and justify why a company presently in violation of environmental restrictions is allowed to make new requests for permits and why DNR would have an expectation that a violating party would honor the terms of a new permit.

Response This permit action is directly related to testing required by a existing construction permit. The required testing determined that Madison-Kipp could not meet the limits they had proposed. Madison-Kipp has proposed higher limits that are acceptable to the DNR and are allowed by the Wisconsin Administrative Code.

## **EVALUATION OF DIOXIN AND FURAN EMISSIONS**

1) Comment Have you truly examined the risks of dropping the separation of metal and chlorine addition to the furnaces be separated by five minutes?

Response Testing has shown that Madison-Kipp can meet the 2,3,7,8-tetrachlorodibenzo-*p*-dioxin limit without the separation requirement. DNR has determined that the proposed increased allowable particulate matter emissions will not cause an exceedence of ambient air quality standards.

2) Comment I have reviewed the documents posted on the DNR Web site related to pending regulatory decisions about Madison-Kipp. It appears to me that not enough information has been provided for the potential hazards of these proposed changes to be judged. No information is provided about the chemical nature of the particles.

Response - Based on the permit application, description of raw materials and proposed permit requirements, the hazardous air pollutants expected from these operations have been reviewed. Chlorine, hydrogen chloride, aluminum soluble salts, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin, and particulate matter were found to be the potential pollutants emitted at Madison-Kipp Corp. that the DNR has the authority to regulate.

3) Comment - The company has performed stack emissions testing that showed emissions of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) was much less than the table value in NR 445 for the compound.

Response Madison-Kipp performed stack testing for TCDD equivalents. TCDD equivalents include 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) and other congeners within the same dioxin family. The stack test emission rate was less than that allowed for TCDD alone, demonstrating that emissions of TCDD are also below the regulatory limits. Madison-Kipp shows compliance with the limit by using an emission factor for TCDD equivalents.

## **PSD REGULATIONS**

1) Comment - Why is Kipp still considered a minor source for Prevention of Significant Deterioration (PSD) with respect to Chapter NR 405, Wis. Adm. Code?

Response – Chapter NR 405, Wis. Adm. Code applies only to new major stationary sources and major modifications to major sources. Madison-Kipp is not a major source under the definition listed in NR 405.02(22), Wis. Adm. Code, and therefore PSD review is not required. Madison-Kipp is not a secondary metal processor.

2) Comment - DNR should clarify why Madison-Kipp is not considered a secondary metals processing facility.

Response – Secondary aluminum processors recycle aluminum from aluminum containing scrap. Madison-Kipp Corp. obtains their aluminum materials from secondary aluminum processors. The federal air toxics maximum available control technology (MACT) rule for secondary aluminum processors does not apply to manufacturers of aluminum diecastings that melt no materials other than clean charge and materials generated within the facility and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delaquering kiln/decoating kiln. Facility allowable emission of Federal HAPS are less than 10 and 25 TPY. Therefore, the MACT rules do not apply to this facility. EPA guidance titled “Treatment of Aluminum Diecasting Operations for the Purpose of New Source Review Applicability” supports the determination that Kipp is not a secondary metal processor with respect to PSD. In the analysis report attached to that EPA guidance memorandum, USEPA recognized that in an aluminum die casting facility, "As much as 1 percent by weight of a purifying flux is added to the furnace prior to receiving the charge to control oxidation and to maintain alloy specifications." Madison-Kipp uses less than 1 percent by weight of flux. In the same report, USEPA stated that "As a result of this analysis, EPA will presume that a die casting facility is not engaged in secondary aluminum production as a primary activity as long as two conditions are met: (1) the facility uses feedstock such as ingots, billets, bars, sows or shot (or even as molten metal) that is of a specified alloy and purity or scrap from other industrial facilities for which the quality is specified and guaranteed by contract and for which little fluxing or alloying is required; and (2) the facility does not produce intermediate forms of feedstock (ingots, billets, bars, shot, sows, etc.) for sale or for use by other facilities." Madison-Kipp's operations meet these conditions.

## **THE MODELING ANALYSIS**

Comment Before any permit is issued, I would like DNR to conduct a state of the art dispersion modeling analysis that accounts for surrounding homes, Lowell School and varied topography here. The proposed permits are based on an incomplete model that treats the facility location as a rural area when it is in fact urban. It also wrongfully assumes a flat topography when hilly terrain changes airflow patterns. An environmental consultant hired by Clean Air Madison ran an analysis that incorporated these considerations, and concluded that Madison-Kipp violated air standards. Why doesn't the DNR use the stricter models recommended by the EPA?

### Response

#### 1. Rural vs. Urban Dispersion Coefficients

The atmosphere within cities and large urban areas has different dispersion characteristics than rural areas. To account for this, separate dispersion equations were developed for urban and rural areas, and it is up to the modeler to determine which set to use in a specific application. To make this determination, USEPA recommends the use of a land-use procedure whereby a three-kilometer radius circle is drawn around the facility, and if certain land-use types make up more than 50 percent of the area within the circle, the modeling analysis should use urban coefficients. According to USEPA, the urban zoning classifications are heavy to light industrial, commercial, and compact residential. Compact residential is defined as close spaced houses (less than two meters) with garages in the alley, no driveways, and limited lawn sizes (less than 30% vegetation per lot). The circle drawn around MK includes parts of Lakes Mendota and Monona, parts of Truax Field, open areas near and beyond Stoughton Road, and parts of Monona. Within the circle, there are strips of commercial or industrial, but only towards downtown is there any compact residential. If the definitions of land use are strictly adhered to, then about 15% of the land within the circle is urban. If the definitions are stretched a bit, then possibly 24% of the area within the circle is urban. Either way, according to USEPA, the dispersion modeling analysis should use rural dispersion coefficients.

#### 2. Flagpole Receptors

Within the dispersion model, receptors can be assumed to be at ground level, or above the terrain as if set on a pole. These are known as flagpole receptors. In speaking with USEPA Region V, who in turn spoke with USEPA headquarters, flagpole receptors are not acceptable for use in regulatory (permit) applications. On a case by case basis, flagpole receptors can be used for balconies and rooftops, or on elevated highway bridges where the plume is expected to directly impact the bridge, but only for model evaluation purposes. In addition, it is both the convention and the default mode to assume a height of zero meters to represent ambient air.

### 3. Elevated Terrain

The dispersion model will accept terrain elevations for receptors where the modeler has determined the terrain will have an effect. The topography in the area of Madison-Kipp Corp. (MK) is very gently rolling, and the terrain adjustments within the dispersion model are designed to simulate the flow of air around hills and through valleys. The slight changes in terrain (Lowell School is 10-15' above MK) surrounding MK do not have an effect on the flow of air. The atmosphere will adjust to the surface for these elevations, such that what is emitted at ten feet above the ground will still be at ten feet above the ground as the air travels over this terrain. While the model can accept such low terrain heights, it is not proper use of the model, and could be considered 'gaming' the model.

### 4. Building Cavity Zone

Downwind of any building is a region where the air is temporarily trapped and will recirculate in a very turbulent fashion. This is called the cavity zone. The standard gaussian plume equations are not valid in this region, and due to the increased turbulence, it is difficult to accurately predict concentrations. The dispersion model currently determines the distance from the source to the edge of the cavity zone to be three times the lesser of the building height or width, and will not compute concentrations within this region for the individual source. Based upon the facility plot plan, the only sources with a potential cavity off property are the furnace stacks. Using the SCREEN3 model, with sixty-foot stacks and forty-foot buildings, the effluents from these stacks is above the cavity so the effluents are not captured in the cavity at all. Therefore, the discussion of cavity effects is irrelevant. In addition, since the ISC-PRIME model is only proposed at this time, we can not use it in a regulatory analysis. Currently, USEPA is reviewing the comments received about the revised guideline models, and there is no indication when the final model will be promulgated.

### 5. Roof Vents

In the modeling analysis, the sources that can emit pollution are modeled. The most recent data from MK indicate that the roof vent stacks have a vertical, unobstructed discharge. There may be other vents upon the roof, but the company indicates that these do not emit pollution. The stack parameters will be part of the permit, so if any stack is found to be obstructed when it is not supposed to be, then one or more permit conditions will be violated, and action will be taken by DNR.

## **COMPLIANCE WITH ENVIRONMENTAL JUSTICE PROGRAM**

Comment – Due to the composition of population in the area surrounding Madison-Kipp Corp., it is likely that the Environmental Justice Program “Federal Actions To Address Environmental Injustice In Minority Populations And Low Income Populations” will apply to the pending air pollution control permits. Title VI reads: “No person in the United States shall, based on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”

Response – DNR’s issuance of a minor source construction permit to Madison-Kipp is not a federal action and is not covered under President Clinton’s Executive Order on Environmental Justice. It is not entirely clear that the Madison-Kipp permit is an environmental justice or a Title VI issue, which is usually defined as: a low income/minority community, excluded from environmental decision making and subject to a

disproportionate impact from one or more environmental hazards, who experience a disparate implementation of environmental regulations. DNR is committed to the principle that all citizens receive the benefits of a clean, healthy and sustainable environment regardless of race, national origin, or income. DNR seeks broad public involvement in its regulatory development and in its permitting actions, both from minority and low income populations and from the majority population. DNR has not denied participation to any group and we believe that the state's air pollution laws have been applied equally and fairly in this instance.

cc: Marcia Penner – LS/5  
Thomas Roushar – SCR  
USEPA Region V  
DNR Bureau of Air Management, Keith Pierce/Jeff Hanson – AM/7  
Clean Air Madison c/o Jim Powell  
City of Madison Health Dept. c/o John Hausbeck  
Shenk-Atwood-Starkweather-Yahara Neighborhood Association c/o Dan Melton  
State Rep. Mark Miller