

2 Sunfish Lane  
Sunfish Lake, MN 55118

June 25, 1999

Mr. Robert Cupit  
Environmental Quality Board  
658 Cedar St.  
St. Paul, Minnesota 55155

Dear Bob:

This is in response to a June 18, 1998, letter written to you by a NSP attorney, Michael Connelly. The letter asserts that there lacks a basis for our claim that there may exist a relationship between high levels of EMF emissions and "adverse reproductive outcomes."

### **Use of Inappropriate and Outdated Data Sources**

The letter cites three sources. The first is a quote favorable to NSP's views extracted from the SE Metro Environmental Assessment Worksheet (EAW). NSP itself drafted the EAW. The EQB staff in large part accepted NSP's draft wording without necessarily endorsing its content. The EAW is, by definition, open to comments and does not represent in any way the opinion of the Environmental Quality Board or any other authoritative source. Accordingly, in stating that it "agrees" with a citation from the EAW, NSP is disingenuously agreeing with itself in a perverted effort to inflate the credibility of its own words.

The second and third sources cited in the letter are the 1998 EMF-RAPID Working Group report and a 1997 report that the letter incorrectly attributes to the National Academy of Sciences. A division of the National Research Council (NRC), rather than the entirely separate National Academy of Sciences, actually authored the 1997 report.

Updated reports from the same sources have supplanted both of these. A 1999 NRC report on Power Frequency fields supplanted the 1977 NRC report. The EMF-RAPID final report, released on June 15, supplanted the 1998 EMF-RAPID working group report. All four reports are based upon data assembled under the \$45 million, six year EMF-RAPID project.

Why would the NSP attorney cite preliminary reports when updated reports by the same organizations covering the same data are available? Could it be that NSP did not know of the updated reports? That cannot be an explanation, as NSP has mailed copies of the updated reports to some of its customers and therefore must be familiar with them. There is a better explanation. We believe NSP relied the earlier, preliminary reports because the final reports contain language unfavorable to NSP's position.

### **The Resident's EMF Exposure**

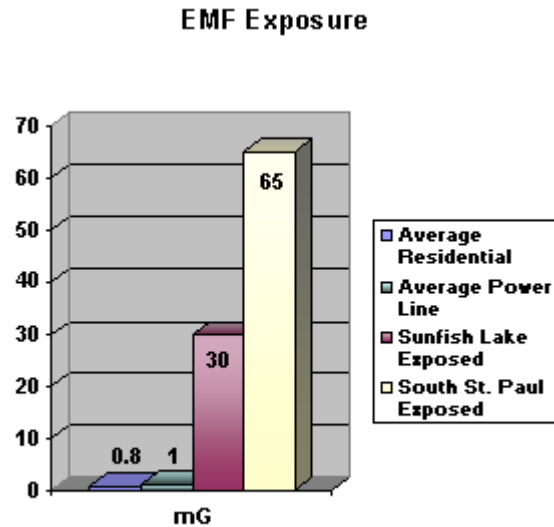
The most authoritative and most recent information on the EMF-RAPID Project is unquestionably its final report prepared upon completion of the project.

Two subjects covered in the final report are germane. One, significantly not mentioned by NSP's attorney, addresses the subject of average EMF exposures of US citizens.

The average exposure is significant because the 115 kV SE Metro Power Line goes extraordinarily close to residences. In many cases, it goes within 50 feet and in some cases within 12 feet of homes. We believe that nowhere else in the United States are

residences located nearer to transmission power lines with a voltage of 115 kV or higher. Since EMF exposure declines with the square of the distance from the source, the close proximity of houses to the high voltage line results in their being subject to extremely high levels of EMF.

Some of the impacted residents have measured EMF in their homes using equipment supplied by NSP. EMF emissions peak in the summer when electricity usage is high. In non-peak seasons, measured EMF levels have exceeded 30 mG. Peak radiations would be much higher. NSP representatives have stated that, in a South St. Paul home, the average EMF is 65 mG. We believe that even that incredibly high EMF exposure may be exceeded in some homes.



### **EMF Standard Exposures Vastly Exceeded**

The EMF-RAPID project measured radiation in a variety of settings. The final report states that the average residential exposure as 0.6 mG. According to the EMF-RAPID data, the average exposure of homes adjacent to three-phase transmission lines like the SE Metro Line is 0.8 mg. The United Nations and World Health Organization have an EMF reference standard that NSP chooses to ignore. The UN/WHO Reference Standard is that level of EMF above which remedial action should be taken. For 60 Hz residential circuits, the UN/WHO reference standard is coincidentally equal to the average exposure of homes near power lines, 0.8 mG. The average exposure of those next to the lines is 108 times the average residential exposure, 82 times the average transmission line exposure, and 82 times the reference standard.

### **NSP's Citations Irrelevant**

The conclusions that NSP cites in such abundance do not address the extraordinarily high EMF levels to which it knowingly subjects those who live next to the lines. They refer to "residential" fields, which, to repeat, average about one percent of the experienced fields. It may well be true that the NSP citations are correct for those living in the vast preponderance of residences. They certainly do not apply to those living next to the current line, whose exposure is, quite literally, off the top end of the range of exposures considered by the EMF-RAPID project.

### **Relevant Research**

To review research relevant to those who are exposed to high levels of EMF, it is necessary to disregard as irrelevant all EMF-RAPID studies that examine only "ordinary" exposure to EMF. There are only a few studies that examine high levels of EMF or provide guidance as to the impact of extraordinarily high level of EMF by addressing the relationship between EMF dosages and adverse consequences.

- The EMF-RAPID final report cites seven studies that identified a link between EMF and childhood cancer and four studies showing an association between EMF and adult cancer.

- It references studies where “significant, exposure-dependent associations were reported” between EMF and such “adverse cardiovascular outcomes as arrhythmia and acute myocardial infarct.”
- The report cites an occupational study that concludes: “a significant association [between power line ELF-EMF and spontaneous abortions] was found with exposure to high ELF-EMF.” The report adds: “Pregnancy loss was investigated in two residential...studies. In one study, an increased risk was observed in the highest exposure category....”
- The final report cited one study that identified a relationship between high exposure to EMF and Lou Gehrig's disease (amyotrophic lateral sclerosis/ALS).
- With respect to the essential hormone, melatonin, the final report cites one residential study that found that “significant dose-related reductions were associated with measured fields in bedrooms” The final report lists studies that also found decreases in melatonin when animals are exposed to EMF. Melatonin promotes sleeps and helps the body resist cancer. In other words, the studies suggest that people subject to high doses of EMF may have sleep disorders and lower resistance to cancer.
- The final report analyzes Alzheimer's disease. According to the report, “The association between occupational exposure to ELF-EMF and Alzheimer’s disease was considered in five studies. All five studies showed increases in one or more exposure groups with four studies showing statistically significant increases and one showing non-statistically significant increases.”

Many of those living adjacent to the power lines have experienced an extremely high incidence of the serious diseases associated with high doses of EMF, including cancer, ALS, and frequent, unexplained miscarriages. They believe the extremely high EFM to which they are exposed causes these diseases.

As noted, some of the studies cited by the EMF-RAPID research show a relationship between high levels of EMF exposure and miscarriages. Residents near the power line have experienced great numbers of miscarriages. One resident, Mrs. Prueher, is currently pregnant with twins. Aware of her extremely high EMF dosage, she is reasonably concerned that she will suffer yet additional miscarriages.

### **EMF-RAPID Recommendations Address Power Lines**

NSP chose not to mention that the EMF-RAPID final report, as a Recommended Action, "suggests that the power industry continue its current practice of siting power lines to reduce exposures." The only way to implement this proposal with respect to the SE Metro Line is to route the line away from residential development.

Note that the EMF-RAPID final report characterizes the power industry as "*continu[ing]* its current practice of siting power lines to reduce exposures [emphasis added]." NSP, rather than "continuing" the industry practice of siting power lines to reduce exposures, is proposing to double the number of power lines through our backyards. Importantly, the final report did not recommend merely reconfiguring lines, must less doubling their number, as an alternate to the appropriate siting of lines, as NSP has proposed.

### **Conclusions**

NSP presents itself as an expert on power lines. It has on its staff Ms. Cynthia R. Axness, QEP, whose title is "Principal Environmental Scientist," and who, in public gatherings, characterizes

herself as an environmental expert. It is a member of the Washington based Edison Electric Institute, which comments upon EMF issues, and which supports research into EMF through the Electric Power Research Institute.

It cannot therefore assert that its incorrect citations and misuse of data are due to naïveté or simple mistakes. Its significant omissions of relevant facts represent an intentional and malicious attempt to mislead public opinion in furtherance of its own short-term profit objectives.

It is willing to sacrifice unborn children on the alter of its own greed and lack of integrity.

Sincerely,

cc: Mrs. Melissa Prueher

Mr. James L. Altman