



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
AT-18J

OCT 23 2003

Mr. Jack Saporito
Executive Director
Alliance of Residents Concerning O'Hare, Inc.
Post Office Box 1702
Arlington Heights, Illinois 60006-1702

Dear Mr. Saporito:

Thank you for your concerns about air quality issues in the vicinity of O'Hare International Airport as contained in your September 28, 2003 letter. The U.S. Environmental Protection Agency (USEPA) Acting Administrator Marianne Horinko has asked our office to respond to your concerns on her behalf.

In response to your continued concerns regarding the appropriateness of Illinois' ambient monitoring network, I wanted to point out that the Federal regulations contained within 40 CFR Part 58 specify the numbers of sites needed to determine attainment of an area with the National Ambient Air Quality Standards (NAAQS). These regulations are intended to require monitors in locations which not only address public health, but also represent air quality from the wide variety of sources typically located in rural, suburban, and urban areas. I would like to assure you that USEPA Region 5 does not automatically approve the network, but instead, reviews the network to see if the minimum number of sites are present, and that they are properly located. We review the Illinois ambient air monitoring network for the criteria pollutants ozone; PM2.5; PM10; sulfur dioxide; nitrogen dioxide; lead; and carbon monoxide, and have found that the State not only fulfills the Federal monitoring requirements but also exceeds them by having more sites deployed than are required, as well as by including sites for special studies concerning air toxics. The Region firmly believes that the structure of the State's existing criteria pollutant network is more than appropriate to satisfy national requirements.

You asked about supporting documentation regarding the Region's approval of Illinois' monitoring network. Please be aware that we generally do not prepare technical support documents as a routine matter for approving State networks, whether in Illinois

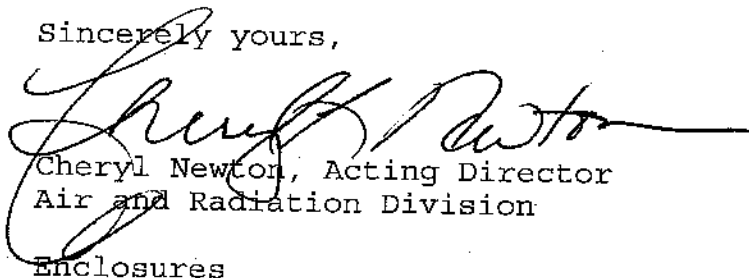
or within any of the other States in Region 5. These matters are typically addressed through meetings and telephone conversations, and include discussions of the locations of populations, sources, and weather patterns. The results of these discussions are then documented and formalized in our approval letter to Illinois. As you acknowledged in your letter, we have already forwarded a copy of this to you.

Regarding your comments about monitoring for air toxics around O'Hare Airport, it is noted that the State of Illinois is continuing its monitoring at the Schiller Park and Northbrook sites on a regular basis. Since there are no Federal regulations in place regarding ambient air toxics monitoring, the Region can neither mandate that the State perform such monitoring nor prescribe where it should be done. It strongly depends on the State's available resources to conduct such monitoring in specific areas for special studies. The fact that two monitoring stations are located in the vicinity of the airport indicates an interest in gaining a better understanding of possible effects of the airport.

You also requested the written documentation from our Office of Research and Development (ORD) examining two health studies conducted in the area, following your questioning of the Illinois Department of Public Health Study. The ORD review is enclosed with this letter and notes that neither of the two studies demonstrates the presence or absence of an association between excess cancer cases and proximity to O'Hare airport, but, in fact, suggests that more study would be necessary to answer the question. It should be noted, however, the two reports were provided to ORD only to learn about the strengths and weaknesses of the studies. In addition, ORD acknowledged that USEPA does not have the personnel nor the expertise to address this type of issue in an expeditious manner. The ORD opinions expressed pertained to that limited review for those two studies alone and do not represent a thorough assessment from the Agency. ORD also notes that the Agency for Toxic Substances and Disease Registry (ATSDR) within the Centers for Disease Control would be the appropriate agency to address these issues. I would encourage you to direct further inquiries on this subject to that Agency.

USEPA is committed to working cooperatively with all stakeholders regarding air emissions resulting from airport-related activities. If you have further questions, please contact Mary Pat Tyson of USEPA's Region 5, at (312) 886-3006.

Sincerely yours,



Cheryl Newton, Acting Director
Air and Radiation Division

Enclosures



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL HEALTH & ENVIRONMENTAL EFFECTS RESEARCH LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
RESEARCH TRIANGLE PARK, NC 27711

October 10, 2002

MEMORANDUM

SUBJECT: Requested review of studies on O'Hare airport

FROM: Rebecca Calderon (MD 58C) /s/
Branch Chief
Epidemiology and Biomarker Branch

TO: Joe Ward,
OAQPs

At your request, I had two of our epidemiologists review the two papers you sent regarding cancers clustering around O'Hare airport. I've attached their report to this letter. If you need additional information please feel free to contact them. They have both indicated they would be willing to consult further on this issue. Each study is briefly described and then reviewed. We've also made some minor recommendations on steps in conducting further research. Another approach I would offer is that it is often easier to document exposures and that should really be the first step in an investigation is documenting that the population of concern is being exposed and at what levels. I suggest you contact Linda Sheldon in NERL, RTP. Please call if you need additional information in this matter.

Encl

Response to the ARECO letter and review of studies:

October 7, 2002

The following is a brief description of the two research papers pertaining to cancer clusters around O'Hare Airport and our review and comments on the two research papers. First we discuss the strengths and weaknesses of each study. Secondly we recommend an approach for further research. It is our hope that these comments will be useful in preparing the Agency's response to ARECO's requests.

We have systematically reviewed both the Illinois Department of Public Health (IDPH) and ARECO reports. It was clear in evaluating both reports that each was motivated to perform a valid scientific study that would answer the critical questions while using their limited available resources. The IDPH study is a typical ecologic epidemiologic study, while the ARECO study is a descriptive surveillance study. Since ARECO did not have expertise in epidemiology, it would be inappropriate to critique the ARECO and IDPH study methods with equal fervor. On the contrary, we did critique both equivalently on the interpretation of their findings.

ARECO Report

Data: Illinois State Cancer Registry (1994-1998), for all zip codes within 10 miles from O'Hare Airport

Design: Surveillance, descriptive comparison of local rates with state rates and visual observation of cluster locations

This study uses a hypothesis generating design. It is impossible to statistically test any specific hypothesis with this design (e.g. Living within ten miles NE-SE of O'Hare Airport is associated with elevated cancer prevalences). The design is incapable of deducing any actual unexplained cancer cluster, since the observed rates were not adjusted for known cancer risk factors which may have varied between regions (e.g. ethnicity, age, socioeconomic status). However, the results of this study clearly suggest further research is warranted..

IDPH

Data: Illinois State Cancer Registry (1987-1997), for all zip codes within study or reference areas (limited to invasive cancers)

Design: Analytical Ecologic Study, with four exposed groups and one reference group based on earlier exposure monitoring data (includes both O'Hare and Midway airports)

This study provided a strong design with very little cost. Study group selection was reasonable, though was limited to the zip code level. It is plausible that combining zip codes into four exposed groups rather than six, as recommended in the Environ report, may have introduced additional exposure variability, potentially biasing the results. The covariates age, gender, and race were adjusted for, though ethnicity and socioeconomic status were not. Dose-response was investigated by aggregating zip codes areas into decreasingly exposed groups. A thorough description of the possible explanations from the results was provided, including chance. This negative study does not preclude an actual association between the exposure and outcome; it only states that no association was measured under this design. Ecologic studies are plagued with biases by design. Another study design using individual-level data would have been more

powerful, but can be more costly.

It is our contention that neither study conclusively demonstrated the presence nor absence of an association between excess cancer cases and proximity to O'Hare Airport. Please deliver that message with sensitivity towards their cancer concerns.

Both studies recommended further investigation. After reviewing additional contextual information germane to this situation, we agree and have concluded that further study is needed to answer the concerns raised by ARECO. Though the language within the letter to the Administrator was relatively courteous and mild, the press release that ARECO submitted upon completion of their study was much more demanding of EPA, asking for immediate action. Their sentiment is understandable given our Agency's documentation of the toxic emissions from jets (EPA420-R-99-013) and quantification of risk estimates from Midway Airport (April 1993, Region 5 Office).

Since our agency does not have the personnel nor the expertise to evaluate cluster alarms in an expeditious manner, we recommend referring ARECO to our sister agency associated within the CDC: ATSDR. Should they deem it necessary for an immediate on-site study, ATSDR is capable of addressing such pressing needs. Furthermore, ARECO could contact local scientists (e.g. Northwestern University or UIC) to instigate their solicitation of EPA funds through up-coming RFP's.

We hope that you find these comments helpful in addressing the ARECO letter.

Erik Svendsen, PhD and Dina Schreinemachers, DrPH
Environmental Epidemiologists
ORD/NHEERL/HSD/EBB
USEPA