Clearing the Air

By Úna Connolly

In an era of community involvement, it is not unusual for asphalt plants to be scrutinized by the surrounding public. When an asphalt plant is located close to a neighborhood, sometimes neighbors raise legitimate questions. Although the Hot Mix Asphalt (HMA) industry has a long record of working with the U.S. Environmental Protection Agency (EPA) to accurately determine the amount of emissions from an average asphalt plant, neighbors and others are rarely aware of this effort.

For the past 10 years or more, this industry has worked very hard to determine our effects on the environment. (See Chart 1.) It is impossible to lay claim to environmental stewardship unless there has been a sustained and diligent effort to understand and deal effectively with any potential consequences of our operations on the environment and our neighbors.

The studies show that HMA facility emissions are typically very low and controlled. This statement may have little or no validity to a neighbor or others who have both the legitimate right and a genuine need to be convinced by something other than technical jargon. In fact, some neighbors may perceive that technical jargon is confusing, contrived, or simply not informative.

In an effort to clear the air of misunderstandings, and communicate more effectively, the National Asphalt Pavement Association's (NAPA) Environmental, Safety, and Plant Operations Committee decided to employ a well-respected firm to compare the asphalt industry with activities and businesses commonly found in neighborhoods. In an industry with an enormous amount of sound technical information, NAPA sought an easy to understand way of communicating this information for those expressing interest.

The analysis of emissions is often reflected in scientific numbers and methods that are imperative to regulators but that have little or no meaning to our neighbors or interested others. This often results in misinterpretation and misperception. NAPA's intent in this comparison is to provide emissions information relating to the industry's operations in ways that are not misleading, but are accurate and helpful.

The results are not surprising. This industry already knew that air emissions from a properly maintained and operated asphalt plant are low. For the first time, we are now able to share this information in ways that begin to illustrate just how low they are.

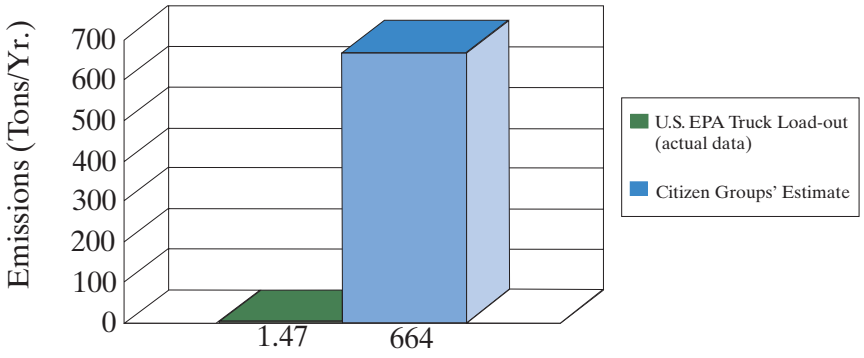
For instance, a drum mix plant producing 200,000 tons of HMA per year was compared to air emissions from the activities such as the following:

- Residential fireplaces;
- Bakeries;
- Gasoline filling stations; and
- Fast-food restaurants.

These categories were chosen because of their frequent occurrences in neighborhoods and because well referenced data could be obtained. The data were obtained through a variety of sources, including EPA's Clearinghouse for Inventories and Emissions Factors (CHIEF) on the EPA Technology Transfer Network and California South Coast Air Quality Management. These types of references tend to base emission estimates on a larger data set than would a journal article.

The study looked at a variety of types and groups of pollutants as a basis for comparison. For example, Total Organic Compounds (TOC) – any compound that contains a carbon atom; Volatile Organic Compounds (VOC) – all organic compounds that contribute appreciably to the formation of ozone.

Emissions Tests Truck Load-out



750,000 Tons of Annual Production

The results of the comparison study bring legitimacy to a view that HMA facilities typically produce very low emissions and are well controlled. It is clear that emissions from HMA facilities are lower than or comparable to many consumer-oriented activities. The following scenarios represent emission levels that are comparable to the yearly releases of one typical HMA plant:

- VOC emissions from one (1) bakery operating for about two weeks;
- VOC emissions from 13 residential fireplaces during the course of one year;
- TOC emissions from 12 gas filling stations during the course of one year; and
- TOC emissions from 27 fast-food restaurants during the course of one year.
- Toluene emissions from one gas filling station operating for five months.

One cannot help but be impressed with the fact that the VOC emissions from an HMA facility producing 200, 000 tons of HMA in one year would be equivalent to one bakery operating for about two weeks of that year.

HMA facilities offer a lot to our communities. Hopefully, this kind of information will assist us in our efforts to communicate effectively with our neighbors and others who have a genuine interest in our operations. After all our neighbors and the public are the judge as to whether we have truly achieved a level of openness and genuineness in our efforts to demonstrate environmental responsibility including being responsive to their concerns. Contact NAPA's enironmental staff for more information and assistance on this subject. HMAT

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