

# HMA Plants Removed From List of SOURCES SUBJECT to MACT Standards

U.S. EPA Says  
No HMA Plant Has  
Potential To Be  
A Major Source Of  
Hazardous Air Pollutants

*By Margaret Blain Cervarich*

**A** brief notice in the Federal Register of February 12, 2002, heralded a welcome verdict for the Hot Mix Asphalt (HMA) industry. In this notice published by the United States Environmental Protection Agency (EPA), HMA production facilities were removed from consideration for stringent new hazardous air pollutant (HAP) regulations that would have resulted in a requirement to meet Maximum Achievable Control Technology (MACT) standards.



## HMA Plants *continued*

The EPA's wording is unequivocal: "In today's notice, we are deleting the source category Asphalt Concrete Manufacturing [from the list of industries considered major polluters] because available data indicate that there are no major sources. This source category was

initially listed in July 1992 because at the time, we believed there were major sources in the category."

The notice goes on to detail the EPA's testing of HMA plants, and finishes with these words: "Based on the above information, we have concluded that no asphalt concrete

manufacturing facility has the potential to emit HAP [hazardous air pollutants] approaching major source levels."

Being de-listed by EPA as a major source is a rare event. Out of the initial 1992 list of 174 source categories targeted for these regulations, and additional ones that have been added over the years, the Hot Mix Asphalt (HMA) industry is one of a dozen or fewer that have been de-listed over the past ten years.

### ***Industry Initiates Research***

The story of the industry's journey to de-listing is one of open exchanges of information. As recounted by members of NAPA's Emissions Task Force who took part in discussions with EPA, the process was a partnership in a search for scientific certainty, and was characterized by straightforward sharing of research data.

The first steps on the journey were taken in 1989, when NAPA members initiated a program for testing air emissions at HMA plants. These NAPA members were seeking to improve the industry's image by undertaking a systematic analysis of actual emissions from asphalt plants with an eye to improving the national database.

"The initial question was, what in fact do we put out of our stacks?" according to Don King, an original member of the Emissions Task Force and Chairman of NAPA's Environmental Committee at the time. Mr. King is President of HMA Contracting Corp., New York. "We felt certain that HMA plants were not major polluters, but there was not enough data to back up our thinking. We felt we had a good case, but at the time we really couldn't prove it.

"A group of us locked ourselves in a room at the NAPA Convention in 1989, and we just hammered on the issues until we could define what NAPA needed and what the industry needed. Part of what we decided that



day was that we should do some stack testing at a variety of HMA plants.

"We agreed that we would test batch plants and the various types of drum plants, and we would do it in several states across the country. We would include plants processing RAP [reclaimed asphalt pavement] and we would make sure we looked at the different fuel types. We felt that this approach would give us the information we needed," said King.

Ted Rapallo, former Engineering Manager for APAC Inc. and now retired, was another member of that group. "Originally, we decided that we needed to address the issue. The decision came from the NAPA members and was supported by the staff. We were not forced into it by EPA or any other regulatory agency. We decided we had to prove that we are compliant, and we do not emit a lot of bad stuff," he remembered in a recent interview.

King said that "once we had our plan in place, the next step was to go to NAPA's Board of Directors to ask for funding. Bob Thompson [of Thompson-McCully Co., Michigan] was a champion of the idea early on. He helped to make the case to the Executive Committee and the Board," King said. The outcome was approval by the Board, and the program was initiated in 1989.

Over a four-year period, the Association itself invested more than \$300,000 in the testing of seven asphalt plants. Additional financial support for the research also came from HMA producer members whose plants were tested, and from equipment manufacturers and other companies in the industry. The U.S. EPA sponsored testing at two HMA facilities.

### **Approaching EPA**

In 1992, while NAPA and EPA were in the midst of the original research program, another branch of EPA published a list of sources targeted for MACT standards, as directed by the Clean Air Act of

1990, and included asphalt concrete manufacturing. These standards would apply to 189 hazardous air pollutants listed in the Act.

It took some time for NAPA's Emissions Task Force to work through all the research. By 1994, however, NAPA was ready to approach the EPA's Office of Air Quality, Planning, and Standards, located in Research Triangle Park, North Carolina, and request that HMA plants be removed from the MACT list. All of the existing data indicated that HMA facilities were not "major sources" of hazardous air pollutants.

The Task Force that walked into the EPA office on that day in 1994 was similar to many other industry groups seeking to work with EPA on a regulation-related issue. There was one factor, however, that set it apart.

"What surprised the people we met with at EPA was that we did not have an attorney with us," recalled Gail Mize, Executive Vice President at Astec Industries Inc., Tennessee. "They said, 'You are the first people that have walked in here that did not have an attorney with them.' They liked that."

All the members of the Emissions Task Force interviewed for this article agreed that Gary Fore, NAPA's Vice President – Environment, Health, and Safety, was the driving force behind the de-listing. "Gary was the glue that held everybody together," recalled Paul Schulz, who was a member of the Emissions Task Force and was Engineering Resources Manager for Rea Construction Co. at the time. "He has the knowledge and the foresight and the experience to see where the industry needed to go in relation to the EPA. He really led us and guided us in that partnering process. That's what he is an expert in."

### **EPA/NAPA Partnership**

Early on, NAPA approached EPA to partner in the program. Together, NAPA and EPA wrote and agreed on

## **TIMELINE**

### **1989**

NAPA Emissions Task Force initiated testing program at HMA plants, in partnership with EPA.

### **1990**

Clean Air Act directed EPA to publish list of major source categories

### **1990-'92**

EPA/NAPA test program carried out and completed. In some cases, EPA observed the NAPA tests.

### **1992**

EPA included Asphalt Concrete Manufacturing on its list of 174 source categories targeted for stringent new air-quality regulations by the year 2000.

### **1993**

Test data reported to NAPA and shared with EPA.

### **1994**

Emissions Task Force met with EPA's Office of Air Quality, Planning, and Standards and made a case for "de-listing."

### **1996**

EPA sponsored additional stack tests at HMA plants in North Carolina.

### **1997-'98**

EPA sponsored additional testing of emissions from truck load-out and silos at HMA plants in California and Massachusetts.

### **2000**

EPA released updated AP-42: Emission Factors for HMA Plants.

### **2002**

EPA removed HMA industry from its list of source categories targeted for stringent new hazardous air pollutant standards. Only a dozen or fewer industries have ever been similarly de-listed.



## HMA Plants *continued*

a test protocol. The goal of the program was to identify and quantify the hazardous air pollutants (HAPs) emitted by HMA plants.

"Writing and agreeing on the test protocol was an important step," according to King. "We knew we did not want five testing efforts done five different ways. Before we started the testing, everyone including the EPA was in agreement that the testing would be done to a certain protocol and would be meaningful."

King recalled the meetings at Research Triangle Park as "very open and frank. We at NAPA realized that partnering was the right thing to do from a moral standpoint and from a practical standpoint. We have all seen industries that resist regulation, and the result is regulators who come in and fine you and hold a hammer over your head. Instead of that, we were in favor of working with the regulators prior to regulation. We felt that a cooperative effort would help our industry improve its emissions."

The outcome was that, from 1989 to 1992, EPA sponsored tests at two facilities and NAPA and its members sponsored tests at seven others. The companies that participated in the testing during that time were APAC Inc., Industrial Asphalt, Lehman-Roberts Co., MacAsphalt Co., Mathy Construction Co., Rea Construction Co., Fred Weber Inc., S.T. Wooten Corp., and Woodland Paving Co. Some companies conducted tests at more than one plant.

Also supporting the testing process with both sweat equity and dollars were the manufacturers of asphalt plants. Those companies included Astec Industries Inc., Cedarapids Inc., CMI Corp., and Gencor Industries Inc.

As Don King remembers it, "We had a three-year period of data collection; it was a real slow grind."

Dave Carlson, NAPA's 2002 Chairman of the Board, paid tribute

to the companies that supported the testing. "These NAPA members made a huge contribution to our industry by backing the Association in this process. They helped us to demonstrate with scientific evidence what we have always believed – that the Hot Mix Asphalt industry is a good corporate citizen, and that emissions from our plants are very low and well-controlled," he said.

### **Early Tests**

From 1993 to 1995, following completion of the tests conducted under the aegis of the EPA/NAPA

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partnership, EPA solicited additional data from various state air pollution organizations and incorporated up to 400 additional test reports. Most of those tests, however, were for particulate testing and did not reflect any knowledge of hazardous air pollutant emissions. Through this process, it was determined that the EPA/NAPA data represented the greatest knowledge resource available about HAPs data.

Further stack tests were conducted in 1996 to fill gaps in the data. During that round of tests, the HMA industry actually helped EPA refine and validate a new testing method, said Joe Musil, Director of Engineering at Cedarapids Inc. "EPA had a new test, the Fournier

Transform Infrared Spectroscopy, or FTIRS, test method for HAPs. I was on-site with Gary Fore during those tests. The method represented leading-edge technology for gauging emissions at the time.

"When we received the results – which were about a six-inch-thick stack of paper – the whole team got together for a special meeting where we sorted through it all. It took the whole team two days. In addition to making sense of all the data, we were able to identify some issues with elements of the testing method. Some modifications and refinements to that test method were a result of our asphalt plant testing."

### **New Questions Raised**

Up to this point, both the asphalt pavement industry and the air-quality experts at EPA had focused their attention on emissions of air pollution from the stacks at asphalt plants. In 1995, however, a group of concerned citizens in Massachusetts raised questions about the potential for emissions from the top of silos where HMA paving material is stored after mixing and at truck load-out, the point where the material is loaded onto trucks to be transported to the paving site.

Fueling the citizen group's concern were mathematical models that estimated large amounts of emissions at these two sources. Unfortunately, the models did not take into account real-world conditions at asphalt plants.

Those knowledgeable about the asphalt pavement industry intuitively felt that those estimates were far wide of the mark. Nevertheless, NAPA and its members have always acted on the principle that the concerns of neighbors and others about environmental and occupational health issues are serious and must be treated as such. Addressing and responding to the



## HMA Plants *continued*

concerns raised by these citizens was a priority for the Association.

NAPA again worked with EPA to answer questions with facts and data. The result was the initiation of a new testing program focusing on emissions – what is called “blue smoke” – from the silo and truck load-out areas. Fore and the Emissions Task Force also entered into a dialogue with the citizens’ group, making sure that all the stakeholders were at the table.

In 1997 and 1998, EPA conducted testing at a drum plant in California owned by All American Asphalt and a batch plant in Massachusetts that was owned by Lorusso Corp. at the time and is now operated by Aggregate Industries. Representatives of the citizens’ group contributed to the writing of the test protocols and were on-site to observe the process of testing. In addition, two independent scientific auditors were

present during the entire process of data collection.

The result was a testing process that was not only thorough, but also very open to scrutiny by citizens and government agencies. The 1996-’98 testing program resulted in 6,000 pages of test reporting. It is estimated to have cost EPA in excess of \$1.5 million. Few, if any, industries have been evaluated as thoroughly as the HMA industry.

### ***Partnering With States***

For NAPA, one of the keys to the de-listing process was partnering with the State Asphalt Pavement Associations. Because the EPA’s Office of Air Quality is located in North Carolina, the agency wished to control its staff’s travel costs by conducting some of the tests in North Carolina. Christie Barbee, Executive Director of the Carolina Asphalt Pavement Association,

assisted in identifying sites available for testing and facilitated the process for both EPA and NAPA.

Cooperation from the executives of several other state associations was also instrumental at several points in the process.

### ***Consequences For “Major Sources”***

NAPA’s approach to regulatory questions embraces partnering with government agencies, labor unions, concerned citizens, and other key stakeholders. In this case, EPA and NAPA set out to apply the best science available. EPA officials utilized the assistance of NAPA staff and members where appropriate. They also listened intently and responded to citizen input.

In addition to the implications for the industry’s image, being declared a major source would have made HMA plants subject to



stringent new regulations. Under the Clean Air Act of 1990, the EPA was given the mandate to publish a list of major source categories of hazardous air pollutants. Operations in those source categories might then be required to obtain a Title V operating permit under the Clean Air Act. This is a costly process which, even when successfully completed, carries emissions fees and brings additional enforcement scrutiny. And, HMA plants would have had three years to meet MACT standards, once promulgated.

MACT standards are technology-based standards. Simply stated, every HMA plant might have been required to add costly new equipment for emission control. Industry experts estimate that the cost of retrofitting an existing plant might have been in the range of \$300,000 to \$800,000 per plant. New plants would have been required to have the new equipment, and would thus have been more expensive to build as well.

Taking an industry-wide view of what the MACT standards might have meant, the out-of-pocket costs for HMA plants nationwide might have totaled as much as \$2 billion.

The consequences of being labeled a major source of HAPs would have been incalculable for the industry. "The heaviest burden for the HMA industry would have been simply that – being forced to bear the stigma," said Mike Acott, NAPA President. "The asphalt pavement industry prides itself on maintaining positive, responsible relationships with communities and neighbors. It would have been a heavy blow to us. Having the EPA declare that no HMA facility has the potential to emit hazardous air pollution at a major source level confirms what we have always believed."

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