

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

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Reference Number: 390

Title: Asphalt's 10 Year Success Story, Compliance Monitoring Service, Linwood, New Jersey,

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Compliance Monitoring Service

Full service air quality compliance (609) 926-2184

Asphalt's 10 Year Success Story

New Jersey's emission limits for asphalt plants were developed following testing conducted by NJDEP and NJAPA in 1986-88 that showed wide variability in both carbon monoxide (CO) and hydrocarbon (THC) emissions. The 86-88 studies identified the causes of variable CO/THC emissions and provided the basis for New Jersey's 500/250 emission limits and the Best Management Practices program.

Best Management Practices Reduce Emissions Ten Fold

In the 1980's emissions were not only variable but often exceeded levels expected from good combustion. High emissions were usually the result of improper operation or maintenance procedures. Industry developed Best Management Practice (BMP) guidelines to assist operators reduce emissions. BMP has reduced NJ asphalt plant emissions by a factor of ten since 1986 - improving plant efficiency in the process.

Initial Stack Test Baseline

NJDEP required every producer to demonstrate initial compliance by rigorous stack testing done in accordance with EPA reference method protocols. This testing cost industry more than \$500,000 in consultant fees alone to prove three hours of compliance. NJDEP considers the test results to be a base line against which current monitoring results are compared.

Compliance Monitoring Confirms Industry's Success

The hot mix asphalt industry uses third party testing at 500 hour operating intervals to demonstrate continued compliance with permit limits. This testing has been in place since 1994 and produces affordable results comparable to reference method procedures. **Compliance Monitoring Service** has provided industry with 2 1/2 years of testing for less than \$200,000. The results confirm that the industry has not been backsliding and emissions today remain the lowest in the nation.

Hot Mix Asphalt Industry - Average Gaseous Emissions

	Carbon Monoxide		Hydrocarbons		Nitrogen Oxide	
	ppmvd @7% O ₂	lbs/ton*	ppmvd @7% O ₂	lbs/ton*	ppmvd @7% O ₂	lbs/ton*
1987 Averages before BMP	2543	0.575	537	0.07		
Initial Stack Tests	192	0.043	95	0.012	67	0.025
Compliance Monitoring 1994-1996	228	0.052	96	0.012	90	0.033
New Sources since 1991	191	0.043	47	0.006	85	0.031
NJ Permit Limits - existing plants	500	0.113	250	0.032	200	0.074

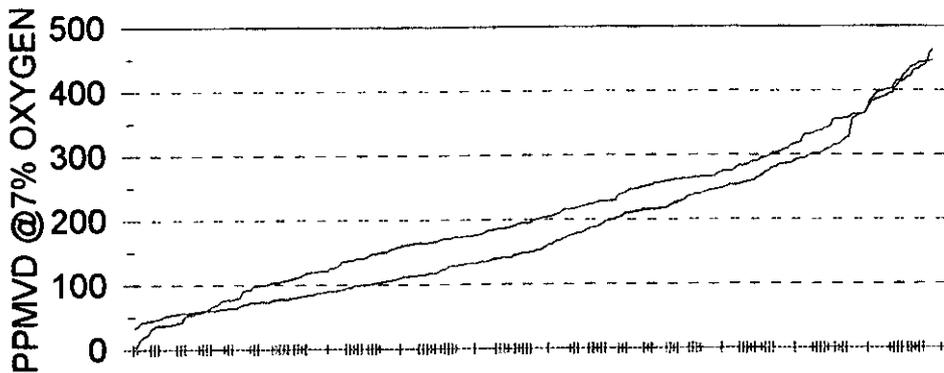
* Normalized to 1.6 gals per ton

New Sources

Approximately 10% of NJ's asphalt plants have been upgraded since this process began. Most upgrades include technology designed to reduce gaseous emissions, but as a group, they are slightly better than existing sources. Significant reductions in emissions were realized when #2 oil fired parallel flow plants were replaced with counterflow dryers.

Carbon Monoxide Emissions

All Plant Types and Fuels



450 INDIVIDUAL TEST RESULTS

— Initial Stack Test

— Compliance Monitoring



Emission monitoring events are required every year at startup. NJDEP's monitoring plan calls for events at startup and after every 500 hours of operation.

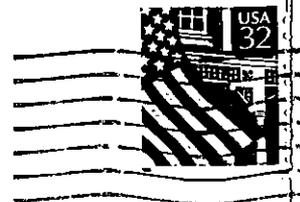
p.s. Be sure to clean your burner nozzle and primary air sleeve. High emissions and poor flame stability are often caused by reduced air flow around the nozzle.

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