

## **TOXIC AIR POLLUTION LEVELS IN CANTON, NC FROM BLUE RIDGE PAPER PRODUCTS, INC.**

Scores of toxic air pollutants are emitted by the kraft paper mill operated by Blue Ridge Paper Products in the western North Carolina town of Canton. Actual environmental pollution levels can be estimated using computer models and emissions data to determine ambient concentrations. The attached table is based on Blue Ridge Paper's analysis of air pollution caused by the mill. The company's computer modeling of ambient pollution utilized freely available AERMOD software. These data were submitted by Blue Ridge Paper Products to the North Carolina Division of Air Quality. AERMOD is an EPA air dispersion modeling system with three components: AERMOD (air dispersion model), AERMET (meteorological data preprocessor) and AERMAP (terrain preprocessor).

The table shows maximum hourly ambient pollutant concentrations in micrograms per cubic meter. The ambient air estimates predicted by the model are for various distances from the paper mill. For example, the maximum hydrogen sulfide level is found at 396 meter from the plant, MEK at 514 meters, and sulfuric acid at 1666 meters. Also, the estimated maximums occur in various directions; at 75, 44 and 248 degrees for these three compounds, respectively, relative to the paper mill. Looking at the full range of compounds for which BRP performed its analysis (26 listed in their report), we find maximums at virtually all points on the compass. What may explain these variables? There are 43 separate air pollution emission points at the Canton facility including bleach plants, paper machines, dryers and other process units. The air dispersion software takes into account individual stack parameters, which differ from unit to unit, such as height and diameter, gas exit velocity and temperature. Meteorological factors and local terrain effects are also accounted for by the computer model. These features could easily explain the variations noted. It is important to note that the maximum points are predictions developed for air quality permitting purposes and that actual pollutant levels are more widely dispersed; that is, pollution goes where the wind blows.

According to the company's Air Quality Modeling Report dated August 3, 2004, Blue Ridge Paper Products meets North Carolina's acceptable ambient limits for toxic air pollutants. Their report is still subject to review by the NC Division of Air Quality. Nevertheless, it provides a conservative benchmark for pollution levels in the community around the paper mill. If Blue Ridge Paper's estimates are indeed accurate, the negative health impacts of legally allowable levels of toxics is underscored.

I believe these ambient pollutant estimates are on the low side of actual levels. Air dispersion models are universal tools with built-in assumptions. Experience shows that even the best available computer models cannot account for all local anomalies. Also, state and federal hazardous air pollutant limits are based on each individual compound's impact. Even with suitable safety margins, they do not account for the fact that people living downwind from industrial smokestacks breathe all the poisons at once, not one at a time. The combined impacts of multiple pollutants on human health are not accounted for. Further, large volumes of air pollution are emitted from sources other than the smokestacks, so-called fugitive emissions. Air emissions from waste lagoons and landfills are not included in this report.

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**AMBIENT AIR POLLUTION LEVELS**  
**BLUE RIDGE PAPER PRODUCTS IN CANTON, NORTH CAROLINA**  
**North Carolina DAQ Air Permit # 08961T04, Facility ID# 01/44/00159**

<u>Toxic air pollutant</u>	<u>Modeled concentration in micrograms/cubic meter*</u>
acetaldehyde	891.84
ammonia	613.13
benzene	0.02
carbon disulfide	0.28
carbon tetrachloride	0.27
chlorine	8.45
chlorobenzene	0.25
chloroform	1.39
cresol	68.07
formaldehyde	13.55
hydrogen chloride	1.80
hydrogen sulfide	34.22
methyl ethyl ketone	2309.86
phenol	20.53
sulfuric acid	0.39
xylene	27.78

\* From *Air Quality Modeling Report, Blue Ridge Paper Products Canton Mill*, August 3, 2004.  
North Carolina's Toxic Air Pollutant program requires paper mills and other industrial air pollution sources to meet standards under 15A NCAC 2Q .0700 which sets maximum allowable ambient levels for 105 pollutants; 16 are listed in the above table. Paper mills are also subject to maximum achievable control technology (MACT) standards enforced by the state permitting agency under the authority of the federal Clean Air Act.

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