Blue Ridge Environmental Defense League

www.BREDL.org PO Box 88 Glendale Springs, North Carolina 28629 BREDL@skybest.com (336) 982-2691 office (336) 977-0852 cell

July 24, 2006

Myron Whitley, Supervisor
Winston-Salem Regional Office
NC Department of Environment & Natural Resources
585 Waughtown Street
Winston-Salem, NC 27107

Re: South Atlantic Galvanizing

Dear Mr. Whitley:

On behalf of the Blue Ridge Environmental Defense League and our chapter Be Safe Not Sorry, I write to request that the Division of Air Quality require South Atlantic Galvanizing (SAG) operating in Graham, North Carolina to obtain an air pollution permit. Our reasons include the discrepancies between the Toxic Release Inventory data submitted by SAG and the recent emissions data from Earth Care submitted by the company. We are also concerned that the particulate emissions from the plant may be excessive, imposing a potential health threat to residents and to children attending a nearby school. At least one compound–zinc chromate–may exceed the state's toxic air pollutant limits. A further concern is that no one seems to have accurate information about the amount of lead emissions released by SAG in this residential community.

As you know, the EPA's Toxic Release Inventory (TRI) requires many industries to report their toxic impact on the environment. An annual report of toxins released to the air, water and soil is required by federal law under Section 313 of the Emergency Planning and Community Right to Know Act, also known as Title III of the Superfund Amendments and Reauthorization Act. EPCRA was enacted by Congress in 1986 in the wake of Union Carbide's catastrophic chemical releases which killed thousands of people in Bhopal, India and a similar though less serious event at the company's Institute, West Virginia plant.

On June 1, 2006 the Winston-Salem Regional Office investigated complaints lodged by residents living near the SAG plant in Haw River. As you also know, the Complaint Investigation Report [a] notes the US EPA website for toxic release inventory data and lists emissions of hydrochloric acid (HCl), lead and zinc from the plant. Although not included in the Complaint Investigation Report, there are emissions of ammonia (NH_3) reported to EPA. According to the TRI Releases/Trends Report, "the facility submitted Form A (i.e., the facility certified that its total annual reportable amount is less than 500 pounds, and does not manufacture, process, or otherwise use more than a million pounds)." The TRI Facility Profile sums up the 2004 data as follows:

TRI Facility Profile Report for South Atlantic Galvanizing in Alamance County [b]

Reported TRI Chemical Data	pounds, for all chemicals reported in 2004
Total On-site Releases:	13,646
Total Off-site Releases:	3,880
Total Transfers Off-site for Further Waste Management:	512,983
Total Waste Managed:	526,453

As a result of the residents' complaints, your office rightly required SAG to submit an estimate of the facility's annual emissions, specifically requesting analysis of zinc, ammonia, lead and hydrochloric acid. In response, SAG consultant Earth Tech submitted a report [c] which listed emission estimates much lower than TRI data. For example, Earth Tech estimates actual annual emissions of zinc at 7,000 pounds; TRI data in 2004 was 13,491 pounds. Earth Tech estimates actual annual emissions of lead at 22.4 pounds; TRI data in 2004 was 155 pounds. For comparison, please see the attached Table which contains comprehensive fugitive air emissions data downloaded from the EPA's TRI website for the South Atlantic Galvanizing plant in Alamance County. [b]

EPCRA §313 requires the owner/operator of the company to certify that the information provided to EPA is accurate. On the annual report form, the senior management official must sign this statement:

> I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report. [d]

Therefore, assuming that the TRI data reported to EPA are accurate, the emissions estimate submitted to you by SAG stating lower emissions must be in error.

The TRI trends for SAG zinc and lead emissions are increasing for the last four to five years, however the hydrogen chloride data show an inconsistent trend in that the 2003 emissions are reported to be one-third of the previous two years, and no 2004 HCl datum is reported at all. At a minimum, the state should investigate how greater throughput could occur with a reduction in processing in 2003, and fill in the blank TRI-reportable hydrochloric acid emissions in 2004.

Without a facility permit, North Carolina air quality regulations have virtually no impact on South Atlantic's galvanizing operations. The application of existing state regulations to reduce particulate matter, objectionable odor and toxic air pollution from the galvanizing plant's operations would be welcomed by local residents and would alleviate our major concerns. Moreover, permitting is a conservative measure to protect public health; SAG's management should welcome it as a good neighbor. State regulations which could apply are outlined below.

Fine particulate matter is emitted by the galvanizing plant. North Carolina air quality regulations governing industrial processes would limit these emissions:

> 15A NCAC 02D. 0515 Particulates from Miscellaneous Industrial Processes
> (a) The allowable emission rates for particulate matter from any stack, vent, or outlet, resulting from any industrial process for which no other emission control standards are applicable, shall not exceed the level calculated with the equation E = 4.10(P)0.67 calculated to three significant figures for process rates less than or equal to 30 tons per hour.

Children are especially vulnerable to particulate matter because, relative to their body weight, they breathe more air than adults; outdoor activity magnifies the effect. Epidemiological studies show that there is no safe level of particulate pollution.[e] The more than 50 children attending the school near SAG must be protected from the harmful effects of this pollutant.

Plant neighbors in the Haw River and Graham area report bad odors coming from South Atlantic Galvanizing. The problem is worse at night, when no state inspector has been present. State law refers specifically to the control of objectionable odors caused by ammonia compounds:

> 15A NCAC 2D .1800 (g) Determination of the existence of an objectionable odor.
> A source or facility is causing or contributing to an objectionable odor when:
> (2) The source or facility emits known odor causing compounds such as ammonia, total volatile organics, hydrogen sulfide, or other sulfur compounds at levels that cause objectionable odors beyond the property line of that source or facility;

Application of state regulations would provide a means for the state to control odorous emissions from SAG:

> 15A NCAC 2D .1800 (f) Maximum feasible controls.
> If the Director determines that a source or facility subject to this Rule is emitting an objectionable odor by the procedures described in Paragraph (g) of this Rule, the Director shall require the owner or operator to implement maximum feasible controls for the control of odorous emissions. (Maximum feasible controls shall be determined according to the procedures in Rule .1807 of this Section.)

Negative physiological and biological effects of odors include anosmia and hyponosmia. Further, zinc and ammonia compounds cause measurable changes in the central nervous system.[f]

Zinc used in galvanizing is commonly contaminated with lead. Another contaminant of concern is zinc chromate. This compound is limited under North Carolina's toxic air pollutant regulations.

> 15A NCAC 2D.1103 (2)
> "Bioavailable chromate pigments" means the group of chromium (VI) compounds consisting of calcium chromate (CAS No. 13765-19-0), calcium dichromate (CAS No. 14307-33-6), strontium chromate (CAS No. 7789-06-2), strontium dichromate (CAS No. 7789-06-2), zinc chromate (CAS No. 13530-65-9), and zinc dichromate (CAS No. 7789-12-0).

The zinc galvanizing process utilizes caustic sodium hydroxide in an alkaline, non-

cyanide process. According to a metal finishing trade journal:

> Metallic contamination can also affect the zinc deposit in many ways: discoloration in the bright dip, blistering, high current density burning, a dark low current density area. Treat metallic contamination using the following procedures: sodium bisulfite or sodium hydrosulfite (0.1 lb/1,000 gals) should be used for chromium contamination. Activated zinc dust may help remove copper, cadmium, lead, and tin from the system, although zinc dust is not as effective in treating metallic contaminants in alkaline non-cyanide baths as it is in chloride zinc baths. Low-current-density electrolysis may still be needed. [g]

NC Toxic Air Pollutant regulations list chromate pigments as carcinogens and maximum ambient levels are limited to 8.3×10^{-8} mg/m^3. Toxics regulations cannot be triggered without a state permit.

In conclusion, South Atlantic Galvanizing has escaped scrutiny by the Division of Air Quality for a decade. People living in this community have now lodged credible, consistent and serious complaints and are asking for relief. The remedy is conservative and available. It is time to apply state air pollution control requirements to this facility.

Thank you in advance for your consideration of our request.

Sincerely,

Louis Zeller
Clean Air Campaign Coordinator

References

a. Complaint Investigation Report, South Atlantic Galvanizing, Record # 4454, WSRO, NC Dept. of Environment & Natural Resources, Division of Air Quality, Report date: 06/09/2006

b. http://www.epa.gov/cgi-bin/broker?TRI=27253STHTL3025S&YEAR=2004&VIEW=TRFA&TRILIB=TRIQ0&sort=_VIEW_&sort_fmt=1&FLD=E1&FLD=E2&FLD=RELLBY&FLD=TSFDSP&FLD=RE_TOLBY&FLD=AIRLBY&TAB_RPT=1&_SERVICE=oiaa&_PROGRAM=xp_tri.sasmacr.tristart.macro

c. Memorandum from Bill Cannon, Earth Tech to Cary "Pete" Peterson, General Manager South Atlantic Galvanizing, Re: South Atlantic Galvanizing—Emissions Inventory, July 6. 2006

d. Form R, Section 3. CERTIFICATION, EPA Form 9350 -1 (Rev. 08/2005), Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, http://www.epa.gov/tri/report/Form_R_2005.pdf

e. Pope et al, *Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution*, JAMA 2002, 287(9):1132-1141

f. Schiffman SS and Nagle HT, Effect of Environmental Pollutants on Taste and Smell, Otolaryngology–Head & Neck Surgery 106:693-700, 1992

g. Alkaline Non-Cyanide Zinc Plating, Products Finishing Online, PAVCO, accessed July 22, 2006, http://www.pfonline.com/articles/pfd0506.html

Attachment

Table: South Atlantic Galvanizing Fugitive Air Emissions, Alamance County

Table: South Atlantic Galvanizing Fugitive Air Emissions, Alamance County

Year	Chemical	CAS	Form Type (Form R or A)	Industry	Fugitive Air
1998	AMMONIA	'007664417'	A	34 Fabricated Metals	.
1999	AMMONIA	'007664417'	A	34 Fabricated Metals	.
2000	HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)	'007647010'	R	34 Fabricated Metals	11290
2000	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	10707
2000	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	0
2000	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	0
2001	HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)	'007647010'	R	34 Fabricated Metals	12702
2001	LEAD	'007439921'	R	34 Fabricated Metals	127
2001	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	12119
2002	HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)	'007647010'	R	34 Fabricated Metals	12702
2002	LEAD	'007439921'	R	34 Fabricated Metals	124
2002	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	12580
2003	HYDROCHLORIC ACID (1995 AND AFTER 'ACID AEROSOLS' ONLY)	'007647010'	R	34 Fabricated Metals	4113
2003	LEAD	'007439921'	R	34 Fabricated Metals	155
2003	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	13450
2004	LEAD	'007439921'	R	34 Fabricated Metals	155
2004	ZINC COMPOUNDS	'N982'	R	34 Fabricated Metals	13491

Other TRI Facility Information

Latitude:	35-59-48
Longitude:	79-17-29
Parent Company Name:	SOUTH ATLANTIC LLC
Parent Company Dun and Bradstreet:	008982613
TRI Facility ID Number:	27253STHTL3025S
RCRA ID Number (Land):	NCR000008458