BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

www.BREDL.org ~ PO Box 88 Glendale Springs, North Carolina 28629 ~ Phone (336) 982-2691 ~ Fax (336) 982-2954 ~ BREDL@skybest.com
IN VIRGINIA: 1828 Brandon Ave. SW Roanoke, Virginia 24015 ~ Phone (540) 342-5580 mebarker@rev.net

March 19, 2002
1828 Brandon Ave. SW
Roanoke, VA 24015

Dean Downs
hddowns@deq.state.va.us
Virginia Dept. of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Dear Mr. Downs:

Comments regarding Henry County Power, LLC (Cogentrix) PSD permit

I am writing on behalf of the Board of Directors of the Blue Ridge Environmental Defense League and Piedmont Residents In Defense of the Environment. BREDL is a regional, community-based, non-profit environmental organization. Our founding principles are earth stewardship, environmental democracy, social justice, and community empowerment. BREDL has chapters throughout the Southeast. PRIDE is a BREDL chapter. PRIDE and its members may submit additional comments. All comments should be considered. We are concerned about health and environmental impacts from the proposed 1100 Mw gas-fired (number 2 fuel oil for generators) power plant in Axton, Virginia.

Merchant Power Plants

With deregulation in the Energy industry, so-called Merchant Power Plants have been popping up everywhere. Most of the power generated by these plants will be sold outside of the local community and out-of-state. It is not certain, that all proposed plants will be constructed nor is it certain that once constructed these plants will survive. Some national business publications have stated that less than half of power plants in development in the U.S. will likely be completed. Several energy companies are showing signs of instability. This is especially true after the Enron debacle. Even the Henry County Power partner Cogentrix, a family-owned power company based in Charlotte, is seeking a buyer.[1] This instability in the energy market and especially the possible sell of the company involved with this project is of high concern.

[1] "Cogentrix is looking for buyer", The Charlotte Observer, Oct. 27, 2001

These merchant plants will generally sell its power to utilities and other power suppliers, but not to consumers. They will increase demand on gas pipelines and electric transmission lines. In the Southeast, where there are adequate power supplies and relatively low rates, some states have taken action to curtail these plants by stricter regulations or moratoriums. Both Kentucky and Tennessee have imposed moratoriums. The South Carolina legislature is considering legislation to impose a moratorium until 2003. Georgia suspended processing applications until stricter regulations were imposed. Because power plants typically produce emissions that put the health of children and the elderly at a higher risk, the Kentucky legislature is currently looking at legislation that will "prohibit the exhaust stack of an electric generating facility from locating closer than 3,000 feet from any residential neighborhood, historic structure, school, hospital, or nursing home…"[2]

Local landowners will suffer adverse impacts to property values and quality of life. A recent study by BREDL on property values around a North Carolina asphalt plant showed a 27 percent average drop in property value.[3] A similar drop could possibly occur around this power plant.

Environmental and Health Impacts

Henry County Power has touted this facility as a "clean" facility. Nothing could be further from the truth. This facility will burn fossil fuels. Fossil fuels are not a renewable energy source, and they do emit pollutants. While there are varying degrees of emissions based on type of fossil fuel and pollution controls, natural gas and the number 2 fuel oil backup will emit hundreds of tons of criteria pollutants and numerous pounds of hazardous air pollutants. Most important, this facility along with other proposed facilities will not be replacing coal-fired power plants.[4] They will be adding to the pollution. The cumulative impacts from this facility, along with other proposed/recently constructed power plants, and existing facilities (both power plants and non-power plants) must be examined. Some air modeling was performed on this power plant, but did it include the other power plants that are proposed or recently constructed?

We have already gotten an indication of the inability to regulate by the Virginia State Corporation Commission and the Virginia Dept. of Environmental Quality. When the SCC Hearing Examiner expressed concerns over the cumulative air impacts from the Tenaska Power Plant in Fluvanna County, industry responded by lobbying the Virginia General Assembly in an attempt to remove the SCC's power to look at environmental impacts.

---

[2] Kentucky HB 540

[3] "Pineola Property Study Shows Adverse Impacts From Asphalt Plant", http://www.bredl.org/air/maymead_propertystudy.htm

[4] An exception is the Va Power Possum Point facility, which is replacing its coal-fired units with gas-fired units.

The Virginia DEQ has never reviewed the cumulative air impacts from these facilities. Finally, after the threat of legislation, the DEQ has agreed to do this. To date, the DEQ has not even tabulated the emissions from proposed and recently constructed power plants by DEQ Region, let alone by the state DEQ office. When BREDL asked the Richmond DEQ office for such a list, we were instructed to contact each Regional office for the data. BREDL has recently asked for this information.

The DEQ Feb. 3, 2002 Public Notice stated, "Increment analyses did not show any violations of the standards." According to the Nov. 7, 2001 State Advisory Board on Air Pollution Report to the Virginia State Air Pollution Control Board, Virginia has never performed a review of the adequacy of the PSD program to prevent significant deterioration or increment violations despite the 40 CFR 51.166 requirement. We call on the Virginia DEQ to perform an analysis on the PSD program prior to approving any PSD permits.

Virginia DEQ should include the EPA allocated NOx emission budget for electric generating units in its analysis. Will existing power plants reduce emissions to counter the new pollution from these merchant power plants? Or, will this new pollution just add to the worsening air quality of Virginia and North Carolina?

This plant will probably require both a Clean Air Act Title IV Acid Rain permit and a Title V Air Permit. Will these permits be out for public review prior to construction or after?

One thing that is certain, is that these plants will take a toll on Virginia's air, land, and water resources. Of the currently thirty new and proposed power plants in Virginia since January 1999, this facility will be the third largest. It will be centered in an area where the adjacent communities of Roanoke and the North Carolina Piedmont already exceed the 8-hour ozone standard, as well as expressing difficulty in meeting the new federal health standard for particulate matter.

During the 2001 Ozone Season, Roanoke had five occurrences when the maximum 8-hour average ozone concentration was greater than or equal to the EPA standard of 85 parts per billion (ppb). The North Carolina Piedmont had twenty-two exceedences.

Unfortunately, we feel confident that if Martinsville/Henry County had monitors for ozone and particulate matter, it too would show exceedences of the health standard for these pollutants. Until the Virginia DEQ can effectively monitor these pollutants in the Henry County area, it should not be permitting new sources of pollution.

A look at air emissions from stationary sources in Henry County, Pittsylvania County, Patrick County and Franklin County in Virginia; and Stokes County, Rockingham County, and Caswell County in North Carolina ranks this proposed facility among the top polluters. Note: Some of these facilities may no longer be in operation.

NOx Emissions

Facility	County	Annual Tons
Belews Creek coal-fired	Stokes Co.	68,252
Transco gas pipeline	Rockingham Co.	6,499
Duke Power Dan River Steam	Rockingham Co.	2,569
Transco Station 165 – nat. gas	Pittsylvania Co.	1,968
Proposed Cogentrix/HCP gas-fired	Henry Co.	478

- source: EPA 1999 data

PM – 10 Emissions

Facility	County	Annual Tons
Belews Creek coal-fired	Stokes Co.	1,407
Proposed Cogentrix/HCP gas-fired	Henry Co.	446

- source: EPA 1999 data

VOC's Emissions

Facility	County	Annual Tons
Stanley Furniture	Henry Co.	858
Bassett Chair	Henry Co.	763
Courtaulds Performance	Henry Co.	680
Hooker Furniture	Henry Co.	577
Bassett Superior Lines	Henry Co.	546
Masonite Corp.	Pittsylvania Co.	479
Am. Furniture Co.	Henry Co.	472
Ridgeway Clock Co.	Henry Co.	355
Transco gas pipeline	Rockingham Co.	281
Courtaulds Perf. Films	Henry Co.	259
Goodyear Tire & Rubber	Pittsylvania Co.	247
Bassett, WM	Henry Co.	245
MW Manufacturer	Franklin Co.	223
Bassett Table	Henry Co.	193
Ball Metal Bev. Container	Rockingham Co.	175
Pulaski Furniture	Henry Co.	173
Belews Creek coal-fired	Stokes Co.	164
Proposed Cogentrix/HCP gas-fired	Henry Co.	137

- source: EPA 1999 data

SO_2 Emissions

Facility	County	Annual Tons
Belews Creek coal-fired	Stokes Co.	83,850
Duke Power Dan River Steam	Rockingham Co.	6,560
Dan River	Pittsylvania Co.	675
Miller Brewing Co. – Eden	Rockingham Co.	670
Burlington Industries	Pittsylvania Co.	439
Proposed Cogentrix/HCP gas-fired	Henry Co.	229

- source: EPA 1999 data

CO Emissions

Facility	County	Annual Tons
Transco gas pipeline	Rockingham Co.	2,037
Belews Creek coal-fired	Stokes Co.	1,363
Proposed Cogentrix/HCP gas-fired	Henry Co.	1,100

- source: EPA 1999 data

The health and environmental impacts from criteria pollutants and some HAP's are well-documented. New research has shown that air pollution can be linked to a decrease in lung formation in children, birth defects, increase in asthma attacks, heart disease, and lung cancer. The list continues to grow. Ozone pollution has been linked to an increase in school absenteeism. According to the EPA, asthma among children increased from 5.8% in 1990 to 7.5% in 1995. Pittsylvania Co., VA and Caswell Co., NC are ranked number 1 in the nation for asthma mortality rates.[5] The documentation is overwhelming.

Estimated populations of High-Risk Groups in surrounding Virginia and North Carolina cities and counties.

County / City	Population	Lung Cancer	Emphysema	Chronic Bronchitis	Adult Asthma	Pediatric Asthma
Henry	56,078	35	458	3,033	2,260	789
Martinsville	15,814	14	165	870	638	210
Pittsylvania	57,905	35	461	3,129	2,298	861
Danville	51,291	72	494	2,805	2,058	708
Caswell	21,441	18	174	1,159	852	318
Rockingham	89,169	101	721	4,824	3,511	1,355

Source: American Lung Association 2000 data

[5] Health Service Area mortality data from 1995 to 1997 based on a population of at least 300,000 provided by the National Institutes of Health.

The rate of acid deposition in Virginia's mountains is among the highest in the country. From 1985 through 1997, nitrogen oxides from stationary and mobile sources have increased by 50 percent. Increases in NOx emissions, even if not sustained, can have severe impacts.[6]

> "Recent declines in fish population and species diversity indicate, however, that episodic acidification is taking its toll. In a University of Virginia study on trout reproduction in the Southern Appalachian Mountains, researchers found nearly 100 percent death in the trout eggs and newly hatched fish after a severely acidic rainfall and steep increase in stream water acidity. This sharp acidic surge, due to acidic rainfall, altered stream chemistry, resulting in conditions fatal to fish at young and vulnerable stages. [Trout Unlimited, 1998.]"

In a 1995 EPA Report titled "Acid Deposition Standard Feasibility Study, Report to Congress", the EPA found that the eastern portion of the U.S. is most at risk from continued acid deposition. The targeted areas were the lakes and streams of the Appalachian Mountains.[7]

The Virginia Trout Stream Sensitivity Study, which was released in October 2000, conducted by Trout Unlimited and analyzed by University of Virginia scientists shows that many of Virginia's streams continue to suffer from acid rain. It showed that the number of "chronically acid" streams increased and will continue to increase. The number of dead streams is expected to more than double in the next 40 years.

According to the Southern Appalachian Mountains Initiative (SAMI), "the southeastern United States has more frequent episodes of air stagnation than most other areas of the country. During these periods, pollutants can remain over the mountains for several days at a time. The naturally high humidity of the area magnifies the haze generated by airborne particles."

A 1999 National Oceanic and Atmospheric Administration report states, "It has been observed that major air pollution episodes are usually related to the presence of stagnating anticyclones. Such anticyclones may linger over an area for a protracted period (4 days or more). During this period, surface wind speeds can fall to very low values. The near surface circulation is therefore insufficient to disperse accumulated pollutants, thereby causing distressful and possible hazardous conditions for the inhabitants of the area."[8]

---

[6] Power That Pollutes: A Status Report on Virginia's Outdated Power Plants, Southern Environmental Law Center/The Izaak Walton League, p.1, April 2000

[7] EPA Progress Report on Acid Rain Program, p. 14, November, 1999

[8] Air Stagnation Climatology for the United States (1948-1998), Julian X.L. Wang and James K. Angell, April 1999

In an annual mean sense, air stagnation events are most prevalent in the southern states. The trend in air stagnation days shows the nearby Roanoke area is one of the SE regions which shows a positive trend or increase in stagnation days. From 1989 - 1998 (May-Oct.), in the nearby Roanoke area, there were 23 cases of air stagnation days.

ROANOKE AIR STAGNATION DAYS

* air stagnation case of 4 or more days occurred

Year	May	June	July	August	Sept.	Oct.
1998				*	*	
1997		*			*	*
1996				*		
1995		*		*	*	
1994				*		
1993		*	*	*		
1992	*			*	*	
1991	*	*		*		*
1990		*		*		
1989						*

- source: table derived from NOAA data

Pollution Control

Henry County Power (HCP) needs to demonstrate its commitment to securing public health and safety, as well as the protection of the environment for Henry County residents and adjacent communities in Virginia and North Carolina. A Best Available Control Technology (BACT) analysis by the company indicated the use of Dry Low-NOx combustion and selective catalytic reduction (SCR) technology be used for the gas-fired combustion turbine generators. BREDL insists that the pollution control technology, which offers the least emissions be utilized at this facility.

We believe that Henry County Power can offer less emissions by using oxidation catalyst technology such as SCONOx. We also believe that Henry County Power is misleading the Virginia DEQ and the public by claiming that SCONOx technology can not be used at its facility. In their application, Henry County Power states that since the facility will be using GE 7 (FA) turbines, they can't apply SCONOx pollution control technology because it is "not technically feasible." Goal Line Environmental Technologies, LLC, which developed SCONOx, disagrees. In fact, SCONOx has been deemed both "technically feasible" and "commercially available" by EPA Regions 1 & 9.[9] SCONOx

[9] BREDL Feb. 25, 2002 email correspondence with Goal Line Environmental Technologies

catalysts reduces VOC's, NOx, and CO without having to use Ammonia and other hazardous toxins.

SCONOx technology is comparable to CO oxidation catalysts, according to EPA. CO oxidation catalysts performance results show a 90-plus percent control of CO and about 85 to 90 percent control of formaldehyde. (SCONOx catalysts have been demonstrated to reduce emissions by at least 90 percent for formaldehyde and acetaldehyde.) Similar emission reductions are also achieved on other HAP pollutants. In addition, SCONOx uses chemical modifications that removes NOx.[10] The SCR technology that HCP wants to use achieves a NOx emission of 3.5 ppm, while SCONOx guarantees CO emissions of 1 ppm and NOx emissions of 2 ppm.

The SCONOx system was determined Lowest Achievable Emission Rate (LAER) by the EPA in July of 1997 and Best Available Control Technology (BACT) by the South Coast Air Quality Management District of California in September of 1997.

EPA Region III also believes that an oxidation catalyst should be used as Best Available Control Technology (BACT) for this facility.[11] Since the DEQ public notice for the March 11 meeting on the PSD permit mentions SCR as the pollution control, we question why EPA's recommendation has not been used.

Additional information can be found at :
Goal Line Environmental Technologies' website at: http://www.glet.com;
Alstom Power, Inc.'s website at: http://www.apcnoxcontrol.com;
EPA's website at these links: http://www.epa.gov/ttn/oarpg/t3/reports/cttech5.pdf and http://www.epa.gov/ttn/oarpg/t3/reports/ctcost4.pdf .

Water Impacts

At one point, this project was estimated that it could use 7 million to 10 million gallons of water a day. On a peak day, that is equivalent to the water supply for 105,000 to 150,000 people. Some estimates indicate that up to 80 percent of the water used in these type facilities is lost to evaporation. How much of the plant's water use will be from surface water? The ongoing drought conditions in Virginia is not predicted to ease. On March 7, 2002, the Richmond Times-Dispatch reported that the Virginia State Climatologist says there is a high probability that a considerable portion of Virginia will experience an event like the 1930 drought. In 1930 about half of Virginia's counties experienced water shortages.[12]

On March 13, 2002, Governor Mark R. Warner directed state agencies to develop and implement water conservation plans as soon as possible in response to statewide drought conditions. The Governor also encourages all Virginians to reduce their use of water for

[10] EPA Dec. 30, 1999 memorandums on HAP Emission Control Technology and Oxidation Catalyst Costs
[11] EPA June 07, 2001 letter to VA DEQ
[12] "1930-like Drought Coming to State?", Richmond Times-Dispatch, March 7, 2002

non-critical purposes. "Drought conditions in virtually all parts of Virginia now range from severe to extreme," Governor Warner said in his press release.[13] The press release went on to mention that "stream flows in March are reaching historic lows, comparable to levels normally seen in the drier months of September and October.

In North Carolina, the water shortage isn't any better.

> Facing the worst drought in half a century, portions of North Carolina have been declared federal disaster areas and others are going into the spring season with mandatory water restrictions... Greensboro and eight other North Carolina water systems will go into the spring growing season with mandatory water restrictions in place, including curbs on watering lawns. Sixteen other North Carolina systems have asked customers to reduce water use voluntarily. Greensboro is coming out of its driest six-month period since 1961, the earliest year for which the city has reliable records. Between September and February, just 10.5 inches of rain fell on the city. Average rainfall for that time period is near 20 inches. "We need to be very cautious," said Woody Yontz, chairman of the N.C. Drought Monitoring Council, a state group that tracks water consumption. [14]

Officials in Eden, North Carolina have already expressed concern to DEQ regarding impacts to their water supply.

Impacts to neighboring landowners' water wells should also be addressed.

DEQ should not take these concerns lightly. Has this facility investigated the use of cooling fans in lieu of water?

Conclusion

In South Carolina, in late January 2002, the seven-member state Public Service Commission voted unanimously to deny an operating permit for a Cogentrix gas-fired power plant in Greenville County. The Commission cited concern over environmental impacts. One commissioner, Phillip Bradley, stated in his motion, "I was not persuaded by the evidence presented by the applicant that the environmental compatibility…was met. The evidence presented on air and downstream water quality and the impact on aquatic life which might result from the diversion of water from the Mauldin Road Waste Treatment Plant left too many questions unanswered at this time."[15]

It is time for Virginia DEQ to take a stand to protect the health and environment of Virginia residents and neighboring states. Evidence is clear that area and surrounding

[13] March 13, 2002 Governor Mark Warner Press Release
[14] "Drought problems persist for North Carolina", Raleigh News & Observer, March 13, 2002
[15] South Carolina Public Service Commissioner Phillip Bradley's statement, Jan. 29, 2002

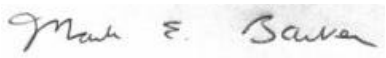
communities have problems meeting the health standards for ozone and particulate matter. It is clear that area residents are suffering the highest Asthma mortality rates in the nation. Yet, DEQ has no pollution monitoring in place. It is clear that the Commonwealth of Virginia and some North Carolina areas are on the verge of an extreme water shortage. It is clear that we have a long way to go on improving air quality, acid rain, and improving human health related impacts.

Until human health and the health of our environment in Virginia improves, this huge Henry County Power/Cogentrix 1100 Mw facility, which will emit tons of criteria pollutants and hundreds of pounds of hazardous air pollutants, should not be granted permission to spew out its toxic mix in this area or draw from precious water supplies. Especially since the company refuses to use the best pollution controls available to emit the least possible amount of toxins. Especially since this facility will not take the place of any of the state's coal-fired power plants. To add insult to injury, the generated power by this facility is not even guaranteed to benefit Virginia residents.

BREDL respectfully requests that Virginia DEQ deny the PSD permit for Henry County Power because of additional health and environmental impacts to Virginia and North Carolina residents.

Thank you for this opportunity to comment.

Sincerely,



Mark E. Barker
BREDL SW Virginia Vice President
(540) 342-5580
mebarker@rev.net
http://www.bredl.org

Attachments

Pollution Control

1. Feb. 25, 2002 BREDL email correspondence with SCONOx representative
2. Dec. 30, 1999 EPA memo regarding HAP Emission Control Technology
3. Dec. 30, 1999 EPA memo regarding Oxidation Catalyst Costs

4. "Cogentrix is looking for buyer", The Charlotte Observer, Oct. 27, 2001

5. "Drought problems persist for North Carolina", Raleigh News & Observer, March 13, 2002

6. Nov. 7, 2001 State Advisory Board on Air Pollution Report to Virginia State Air Pollution Control Board (note: Not all Appendices are included for this report)

Media reports on Air Pollution and Health

7. "Playing sports in areas of high ozone pollution may increase asthma risk", Sept/Oct Asthma Magazine
8. "Cleaner Air improves Children's Lung Function", Reuters, Dec. 21, 2001
9. "Study Links bad air and birth defects", CNN.com, Dec. 16, 2001
10. "Air Pollution Harmful to Babies, Fetuses", LA Times, Dec. 16, 2001
11. "A Bad Mixture in the Sky", The News & Advance, Aug. 12, 2001
12. "Study links dirty air and cancer", Atlanta Journal-Constitution, March 6, 2002
13. "Ozone Pollution increases school absenteeism", Reuters, Dec. 21, 2001
14. "Pollution constricts blood vessels", Reuters, March 12, 2002
15. "Atmosphere losing ability to clean itself", CNN.com, May 3, 2001
16. "Lung Cancer tied to air pollution", AP, March 2002
17. "EPA says U.S. Children face environmental health threats", Reuters, Jan. 09, 2001

18. "Public Service Commission denies Cogentrix plant", The Greenville News, Jan. 29, 2002

19. "Bradley Statement on merchant power, Cogentrix application", The Greenville News, Jan. 29, 2002