

Between a Rock-Tenn and a Hard Place

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The problem:

- Proposals to build a burner to provide steam for Rock-Tenn threaten community health

Who is Alan Muller?

- Long-time member of international “GAIA” network (Global Alliance for Incinerator Alternatives)
- Executive Director of Green Delaware since 1995
- Former consultant to DuPont—been on both sides was involved in designing and marketing burners
- Involved in successful campaigns in Delaware to effectively outlaw new incinerators

Why is Muller in St. Paul?

- Involved in proposals and controversies very similar to Rock-Tenn in St. Paul
- An incinerator is an incinerator is an incinerator
- Details vary, but the basic methods used to promote incinerators tend to be similar...

A little background from Delaware

- Actual and proposed burners caused problems
- A “Refuse Derived Fuel” (RDF) burner was shut down by regulators after bankrupting operators and poisoning neighbors
- Construction & Demolition Debris (“C&D”) burner proposals were chased out of the state
- “Biomass” burner proposals such as “poultry litter” were chased out of the state
- Out of these controversies grew legislation that effectively prohibits new incinerators in Delaware

Delaware legislation—a possible model

Definition of incinerator:

(10) "Incinerator," "incinerator structure or facility," and "waste incinerator" include any structure or facility operated for the combustion (oxidation) of solid waste, even if the by-products of the operation include useful products such as steam and electricity. [7 Del. C. Sec. 6002]

Approved April 25, 2000

Delaware legislation

(2) No permit may be granted to any incinerator unless:

...

b. Every point on the property boundary line of the property on which the incinerator is or would be located is:

1. At least 3 miles from every point on the property boundary line of any residence;
2. At least 3 miles from every point on the property boundary line of any residential community; and
3. At least 3 miles from every point on the property boundary line of any church, school, park, or hospital.

[7 Del. C. Sec. 6003(c)(2)] Approved April 25, 2000

“Bottom Line:”

- Delaware “just said NO” to incinerators
- **City of St. Paul/State of Minnesota CAN “JUST SAY NO” TO Incinerators**

Why Say “NO” to incineration?

- **Pollution/health damage**
- High cost
- Conflict with recycling and other public goals
- Harm to property values and sense of community

Incineration – that’s what it is!

- “Incineration” – the burner industry knows it has a bad reputation
- Gives it new names to obscure reality
- Whatever they call it, it’s still an incinerator

“Incinerators in disguise”

- “Trash to steam”
- “Waste to energy”
- “Energy from waste”
- “Biopower” or “Biomass”
- “Resource Recovery”
- “Thermal Treatment”
- “Pyrolysis”
- “Gasification”
- “Plasma gasification”
- “Energy Generation Facility”
- And so on...

How to cut through the terminology

- Look at the basic chemistry of what's happening:
- Waste is mostly carbon and when it burns:
$$\begin{array}{ccccccc} \text{C} & + & \text{O} & & \rightarrow & \text{CO}_2 \\ 12 & + & 16 \text{ (X2)} & & \rightarrow & 44 \end{array}$$
- Burning one pound of carbon gives 3.7 pounds of carbon dioxide, a greenhouse gas.
- Many other harmful emissions!

When you look at the basic chemistry of the processes, it's all the same:

- IT'S INCINERATION
- RDF = GARBAGE
- BURNING RDF IS BURNING GARBAGE
- Nothing is “converted into energy”
- Burning is “Landfilling in the Sky”

Understanding the Rock-Tenn burner scheme—sources reviewed

- Foth & Van Dyke Report for Ramsey and Washington Counties— burn RDF in your neighborhood (July 2006)
- Green Institute – opportunities for “biomass”
- MPCA – Reports on air quality in MN.
- MPCA – Proposed Rules for waste combustors

Basics of the Foth R-T waste burner report (Wash./Ramsey Counties):

- Burn 394,200 tons per year of “RDF” in St. P. (1080 tons/day – 45 tons/hour)
- Keep on burning in Red Wing and Wilmarth
- Facility oversized—plans for additional uses—District Energy?)
- Produce 118,200 tons of ash/year (324 tons/day – 13.5 tons/hour)
- About 23,200 truckloads per year – 64 truckloads per day – at 22 tons/truckload.
- R-T still uses own boilers about 315 hours/year

Green Institute “Biomass” report

- “Renewing Rock-Tenn: A Biomass Fuels Assessment for Rock-Tenn’s St. Paul Recycled Paper Mill (March 2007)
- Estimates burning 225,000 tons/year of “mixed biomass.” (not RDF)
- No estimate of ash production
- Various types of “biomass” considered
 - Some “clean”
 - Some dirty (C&D wood)
 - Supply is inadequate

Interesting points from Green Institute report

- “Foth recommends two biomass boilers and a resulting fuel input (394,000 tons RDF) that is nearly twice what is necessary to meet plant energy demand” (page 59)
- “The St. Paul Port Authority is currently asking the Minnesota Legislature to approve a \$20 million “renewable energy transition charge” to Xcell Energy ratepayers for developing and constructing the project”

Foth and Green Institute Reports have in common

- No real consideration of health impacts
- Can't make the numbers work without massive, hidden subsidies

Impacts on community

- Smokestack emissions
- “Fugitive” emissions
- Diesel emissions from trucks
- Noise
- Wear and tear on roads
- Taxpayer & Ratepayer subsidies

Hundreds of studies and reports on health effects of incinerators

- *“The Health Effects of Waste Incinerators”* British Society for Ecological Medicine (Dec 2005) 257 references
- *“Burn, Baby, Burn. How to Dispose of Garbage by Polluting Land, Sea and Air at Enormous Cost”* Elizabeth Holtzman, Comptroller, City of New York, 1992 Over 132 references

What comes out of incinerator smokestacks?

- “Incinerator emissions are a major source of fine particulates, of toxic metals and of more than 200 organic compounds, including known carcinogens, mutagens, and hormone disruptors.” (Ecomed report)

More:

- “Emissions also contain other unidentified compounds whose potential for harm is as yet unknown, as was once the case with dioxins.”

More ...

- “Since the nature of waste is continually changing, so is the chemical nature of the incinerator emissions and therefore the potential for adverse health effects.”

More ...

- “Present safety measures are designed to avoid acute toxic effects in the immediate neighborhood, but ignore the fact that many of the pollutants bioaccumulate, can enter the food chain and cause chronic illnesses over time and over a much wide geographical area.”

Back to the Foth report

- “Air dispersion modeling is the primary predictive tool used by regulatory agencies for evaluating air impacts ...uses emission rate stack height” (Sec. 9.1.3)
- In other words “the solution to pollution is dilution.” (taller smokestack!)

A taller smokestack

- Exposes more people to lower concentrations of pollutants
- Does not reduce total exposure...

OK, so what?

- Traditional environmental regulation assumes there is a safe concentration of pollutants. As long as we stay below that our health is protected... NOT!
- But, based on this thinking, EPA has established National Ambient Air Quality Standards for SEVEN substances

The seven “criteria air pollutants”

- NO_x
- SO₂
- Ozone (O₃)
- CO
- Lead
- Particles (dust)
 - PM-10
 - PM 2.5 (the latest one)

R-T's present 185 foot smokestack



“Landfilling in the Sky”

- About 185 feet high
- MPCA permit allows about 7.5 million pounds per year of these 6 pollutants
- Limits are based on “dispersion modeling”
- In other words, if it was higher, it could put out more...

But this is not “how the world works”

- There is no safe level of pollutants
- There is no safe level of pollutants
- There is no safe level of pollutants

Let's go back to the doctors' report

- *“Two large cohort studies in America have shown that fine particulate (PM 2.5) pollution causes increases in all-cause mortality, cardiac mortality, and mortality from lung cancer, after adjustment for other factors.”*

More from the doctors

- *“...heart disease was responsible for nearly a quarter of deaths and was strongly related to the level of PM2.5 particulates.”*

More ...

- *“Short term increases in fine particles, as will occur downwind from incinerators, have also been shown to cause significant increases in [heart attacks].”*

More ...

- *“Higher levels of fine particulates have been associated with an increased prevalence of asthma and COPD.”*

There is NO safe level of pollutants

- Staying below the NAAQS does NOT protect your health
- Any increase in air pollution, even from a low level, will cause an increase in disease and death
- The regulatory process is based on false assumptions

What about St. Paul?

- Urban air is unhealthy everywhere
- St. Paul is no exception
- According to MPCA, the highest levels of PM 2.5 measured in Minnesota are in St. Paul and aren't far below the NAAQS

“MERP”

- Metropolitan Emissions Reduction Plan
- Resulted in shutdown of High Bridge power plant—from which R-T has been getting steam, but the contract is up in July.
- There will be health benefits—coal is nasty
- But these benefits can be partially or completely lost if coal burning is replaced by waste burning

More from the doctors:

- *“Fine particles formed in incinerators in the presence of toxic metals and organic toxins (including those known to be carcinogens), absorb these pollutants and carry them into the bloodstream and into the cells of the body.”*

More ...

- *“Toxic metals accumulate in the body and have been implicated in a range of emotional and behavioural problems in children including autism, dyslexia, attention deficit and hyperactivity disorder (ADHD), learning difficulties, and delinquency, and problems in adults including violence, dementia, depression and Parkinson’s. These metals are universally present in incinerator emissions and present in high concentrations in the fly ash.”*

More ...

- *“The safety of new incinerator installations cannot be established in advance ...”*
- *“Incinerators presently contravene basic human rights ... the foetus, infant and child are most at risk from incinerator emissions....”*

Garbage vs “Biomass”

- Is “clean biomass” safe?
- How clean is it in practice?
- Probably fewer toxic emissions (dioxin, metals ...)
- But particulate emissions –the leading health hazard--will be similar
- And regulations looser.....

Minnesota “waste combustor” rules

- A “biomass” burner is allowed to burn 30 percent “RDF” (essentially, garbage) without being permitted as an RDF burner. (Verbal from MPCA)
- I am told this was a decision of the Legislature and not up to MPCA.

Minnesota “waste combustor” rules

(<http://www.pca.state.mn.us/air/rulechange-combustor.html>)

“... state standards must be at least as stringent as federal standards. The federal standards are now more stringent in many ways, and the MPCA must therefore revise state rules.”

“The MPCA is considering whether the existing rules should be modified to exempt certain biomass-based wastes from being subject to the waste combustor rules, and if so, under what conditions.”

Minnesota “waste combustor” rules

- “Working Draft of the MPCA’s possible rule amendments” contains:
- “Subp. 3a. Exemptions from [emissions] standards of performance for biomass fuels”
- **If “Biomass” is a clean fuel, why exempt it from “performance standards?”**

I see a pattern

- None of the reports on the R-T project gave significant attention to health
- Already-inadequate rules may be further weakened
- Historically, when “fuel” runs short, limits on what can be burned are eased (Lancaster, PA, example)
- “Biomass” misrepresented as a clean fuel

Economics of the scheme--capital

- Estimated cost of burner \$140-150 million (Foth)
- (Of this, \$1,767,000 is for particulate control)
- Est. cost of expanding RDF “processing” plant about \$50 million
- Total capital cost +/- \$200 million

Economics of the scheme-

- RDF needs would be more than double what is now burned in Red Wing and Wilmarth (Mankato)
- There is not enough garbage produced in Washington/Ramsey Counties to make this much RDF
- Other waste streams would be needed

Economics of the scheme-

- Garbage would need to be imported, or other wastes (C&D, “biomass” etc) also burned.
- Washington and Ramsey Counties are subsidizing the present system with “environmental charges” on waste disposal
 - Washington 39.5 percent
 - Tipping subsidy 37 million in 2006
 - Ramsey
 - Residential 28%
 - Non-residential 53%

Economics of the scheme-

- The R-T RDF burner would mean expansion of an expensive, environmentally unsound waste management system
- Who would pay?
- Who would benefit?

Savings to Rock-Tenn?

- Unclear but maybe 5-10 million \$/year
- Cost to public likely many times this
- Might be cheaper to just give them the money
- R-T reportedly does not want to sign a long-time contract
- Paper recycling industry is tending to move offshore and long-term outlook for R-T in St. Paul is unclear

Other interests to be served?

- Why the proposed oversizing of the plant?
- Questionable long-term outlook for R-T?
- Would the project expand the activities of District Energy?

Washington/Ramsey County waste:

- 40% recycled
- 30% burned
- 30% dumped (17% out of state)

- If the burn was more than doubled, what would give?
- Would recycling be reduced?

“Zero waste” is the answer

- MN recycling rates are above the US average
- Many communities worldwide are making a commitment to “Zero Waste”
- Recycling rates CAN be doubled
- “Zero Waste” offers far greater environmental and economic benefits than expanding the burn

Conclusions

- Reject any new waste burner in St. Paul
- “Garbage,” “RDF,” “Biomass” all unacceptable
- Look towards shutting down all the garbage burners in Minnesota
- Limit “renewable energy” incentives to wind, solar, conservation, other truly clean sources
- Step up recycling—“Zero Waste”

My experience says:

- **Hundreds of incinerator schemes have been defeated**
- **Informed communities usually win**
- **Corrupt and anti-democratic practices favor the burn**
- **Empowered communities favor recycling (“Zero Waste”)**