



**St. Croix Environmental Association**

*A Chapter of the Virgin Islands Conservation Society*

5032 Anchor Way, Suite 3, Christiansted VI 00820

(340) 773-1989 Fax (340) 773-7545 e-mail sea@viaccess.net

www.stxenvironmental.org

SEA Oral Testimony before the 28<sup>th</sup> Legislature of the U.S. Virgin Islands  
Committee on Planning and Environmental Protection

On Air Emissions from the VI Water and Power Authority  
Estate Richmond, St. Croix Generating Station.

Wednesday, June 17, 2009  
Frederiksted, St. Croix, USVI

Paul Chakroff  
Managing Director

Thank you for the opportunity to testify before the Committee on Planning and Environmental Protection.

I represent the St. Croix Environmental Association, a 450 member non-profit organization located on St. Croix since 1986. *SEA's mission is to promote the conservation of environmental resources, provide education, and advocate for environmentally responsible actions that benefit St. Croix.* Impacts of air pollution on the health and welfare of the people of St. Croix, as well as impacts on our natural environment are serious concerns to SEA and our membership; and I welcome the opportunity to address air emissions from WAPA's Estate Richmond facility in my testimony this evening.

I wish to thank the staff of WAPA, DPNR/Division of Environmental Protection and the USEPA for providing the information I needed to develop this testimony, which addresses issues regarding:

- WAPA's PSD Permit,
- WAPA's Title V Permit, and
- Public health hazards of regulated and unregulated pollutants in WAPA air emissions.

**1. WAPA's Prevention of Significant Deterioration (PSD) Permit**

WAPA's PSD Permit appears to be current and I presume consistent with US Environmental Protection Agency (EPA) National Ambient Air Quality Standards (NAAQS). However,

- a. The PSD Permit is not reviewer-friendly nor does it relate permitted emission levels to environmental or public health hazards.
- b. Continuous emission monitoring and stack testing for Nitrous Oxides is required under the PSD Permit, but I understand that WAPA is not compliant with this requirement: the monitoring equipment is not working well, and the data generated by this equipment are not reliable.

- c. The PSD Permit covers emissions from WAPA turbines, but not #10 or #11 boilers. According to the PSD Permit: VIWAPA operates these units according to DPNR Permits.

## 2. WAPA's Clean Air Act Part 70 Operating (Title V) Permit

WAPA's Title V Permit expired December 31, 2008 and DPNR is currently working on a Permit renewal. The Title V Permit specifies emission limits for the WAPA turbines but not their boilers. **Apparently no emission limits are enforced by the federal or territorial government on Units #10 and #11.** This lack of regulation raises particular environmental and public health concerns. According to an engineering report prepared for WAPA, while accounting for only 8.5% of WAPA's rated capacity, Unit #10 is responsible for over 35% of the modeled Nitrous Oxide emissions from WAPA/Richmond.

The Title V Permit includes monitoring, recording and reporting requirements for each of the five permitted pollutants for all four turbines and both boilers. WAPA is required to self monitor and maintain records of emissions from the four turbines, and report quarterly to DPNR. A review of the most recent Full Compliance Report: found WAPA not "current in compliance" with Title V conditions and not to have been "in continuous compliance during the evaluation period." Another report in the DPNR file found that none of the recording and reporting conditions were complied with by WAPA for Particulate Matter and Volatile Organic Compounds for any of the four turbines. Another report found 18 violations of permit conditions.

No inspection reports covering individual incidents or "upsets" were provided to me for review, and I was told that emissions during such events would be discovered by DPNR in the quarterly review of records provided by WAPA three months after the end of each quarter. Thus DPNR would not necessarily know about a permit violation until three to six months after the date of the incident.

According to WAPA's Title V Permit:

*The Permittee shall not discharge into the atmosphere .... any air contaminant(s) with opacity equal to or greater than twenty percent (20%) for any time period; however, the Permittee.... may discharge .... air contaminant(s) with air opacity equal to or less than forty percent (40%) for periods aggregating not more than three (3) minutes in any thirty (30) minutes.*

Testimony presented by Susan Greenhalgh indicates that on at least six occasions between July 2008 and May 2009, WAPA was noncompliant with this opacity requirement. Please see the two pages of photographs I have provided.

## 3. Public health hazards of regulated pollutants in WAPA air emissions

The St. Croix population potentially affected by Nitrous Oxide emissions is significant. According to the 2000 Census, over 82% of the St. Croix population resides west of the WAPA Generating Station. With prevailing winds generally out of the East approx. 2/3 of the year, the majority of St. Croix's population is downwind from WAPA most of the year.

Asthmatics and members of other susceptible groups have greater risk of health effects related to Nitrogen Dioxide. According to the U.S. Virgin Islands Asthma Initiative, 20-33% of VI children and 10% of adults have asthma. And, a 1999 study found that "asthma was the leading diagnosis for hospitalization on St. Croix at 11% and the third leading diagnosis on St. Thomas-St. John at 8.4%."

I could discuss health hazards of other emissions, but the message would be similar:

- There are environmental and/or public health hazards associated with each air pollutant;

- Hazards should be minimized to “acceptable” levels by emission limits imposed by PSD and Title V permits, but units #10 and #11 are not subject to emission standards under either permit; and
- We cannot know that emissions are being held to those limits without proper monitoring, recordkeeping and reporting; reliable monitoring equipment; and timely inspections by DPNR.

#### 4. **Public health hazards of unregulated air pollutants in WAPA emissions.**

Of greater concern than regulated emissions may be the chemicals in air emissions that are not monitored at all. There is no monitoring required for Hazardous Air Pollutants (HAP) or Polycyclic Aromatic Hydrocarbon (PAH) found in air emissions from hydrocarbon fuel combustion. Of these, I will address health hazards associated with *soot*, the culprit that brings us before the Senate Committee tonight.

Soot is not simply carbon. *Soot* refers to impure carbon particles resulting from the incomplete combustion of a hydrocarbon. Gas-phase soots contain polycyclic aromatic hydrocarbons (PAHs), and PAHs are known mutagens and probable human carcinogens.

A study published in the Environmental Science and Technology Journal found that particulate matter emitted from an industrial-scale boiler burning No. 2 distillate fuel oil was comprised 3.1-8.6% of PAHs.

According to the US Department of the Energy, **soot is small enough to reach the lungs and accounts for 71% of the cancer risk from toxic air pollution.**

According to the USEPA, **Cancer is the major concern from exposure to Poly Organic Matter (including PAH);** and according the World Health Organization, **due to its carcinogenicity, no safe level can be recommended for benzo[a]pyrene (one of seven carcinogenic PAHs).**

I could go on, but suffice it to say, the risk to public health from WAPA and other air emissions on St. Croix is of serious concern. SEA calls for full compliance with current Permit conditions, addition of emission limits for WAPA boilers in the Title V Permit currently being developed by DPNR, and a thorough assessment of public health and environmental risks associated with non-regulated emissions from WAPA and other St. Croix air emissions.

Thank you for the opportunity to address the Committee on Planning and Environment this evening. SEA will make specific recommendations in written testimony, which I will provide to the Committee Chair within 10 days.

Paul Chakroff  
SEA Managing Director