

**Sheplak, Scott**

- file -

**From:** Gorrie, Jason [GorrieJM@CDM.com]  
**Sent:** Tuesday, July 18, 2006 1:50 PM  
**To:** Sheplak, Scott  
**Subject:** RE: Update on NOx Technology

thanks.

Covanta generally operates their scrubbers in a robust fashion. Covanta operates with a very low SO2 setpoint, so HCL is generally well scrubbed. Trace amounts of ambient chloride in a coastal environment might present an issue for Hillsborough, but overall, this is good news. Thanks for passing this along.

---

**From:** Sheplak, Scott [mailto:Scott.Sheplak@dep.state.fl.us]  
**Sent:** Tuesday, July 18, 2006 1:29 PM  
**To:** Gorrie, Jason  
**Subject:** Update on NOx Technology

Jason,  
FYI.  
Apparently keeping the HCl emissions low will minimize plume formation as proven at the Brescia Italy facility.  
Scott

---

**From:** Linero, Alvaro  
**Sent:** Tuesday, July 18, 2006 12:32 PM  
**To:** 'Smitht@hillsboroughcounty.org'  
**Cc:** 'jtreshler@covanta.com'  
**Subject:** Update on NOx Technology

Hi Tom:

It's been a while since we met about Unit 4. I understand the hearing before the ALJ was conducted last week and I trust all went well.

I just got back from vacation in Switzerland and Italy. I saw the big blue stack for the Brescia facility right off of the Venice/Milan Autostrade (big highway) and couldn't resist pulling over and taking a look.

I met with the Director of the ASM Brescia WTE Plant, Mr. Lorenzo Zamboni [zamboni@asm.it]. He gave me a complete rundown of their operations and a tour. I wanted to pass along what may be helpful to you while in the design phase of Hillsborough Unit 4.

All three units operate with SNCR systems. They have Martin moving grates, FGR, spray dryer/fabric filter combos, and activated carbon injection systems. They operate each unit at ~80 mg NOx/m3 which equates to ~ 60 ppmv and were doing so on the day of my visit.

They have no plume issues under their present operations. I myself saw zero opacity. Any potential plume problems from achieving the relatively low NOx values are abated by two fairly recent developments at the plant.

Firstly, they are operating at a lower HCl emission limit following Italy's adoption of certain European Union requirements. Their typical emissions are 4 mg HCl/m3 and the limit is 10 mg/m3. I believe the values are not too different from 4 and 10 ppmv in terms of U.S. standards. You might check your historical record of HCl emissions from Unit 1, 2, and 3 and see how they typically do and check into what your new unit is likely to do.

Secondly, Unit 2 is equipped with the SNCR system in the furnace plus a thin single stage "dusty side" SCR system within the economizer section. It is only about 60 cm in depth (and ~4x13 meters cross-section). The unit was originally designed for that possibility and provided for something like 5 stages of "dusty-side" SCR. They only use one stage. The benefits of the this "trim"

7/18/2006

SCR system are reduction of reagent consumption and ammonia slip with minimal pressure drop.

They shoot for the same 80 mg/m<sup>3</sup> (60 ppmv) NO<sub>x</sub> exhaust values on all three units. Your 90 ppmv long term value would be roughly 120 mg/m<sup>3</sup> so the job will be easier if designed right.

I went ahead and included one picture of the small SCR piece (alongside a corpulent Colombian) so you can see what is physically entailed. I also included a picture of the stack taken on July 6 so you can see what I saw.

Feel free to contact me if you would like to know more about my trip. Good luck on the planned expansion project!

Sincerely,

Al Linero  
1-850-921-9523

7/18/2006