

**Subject:** RE: Cliffside Modeling

**From:** "Connors, Jeffrey" <JConnors@ensr.aecom.com>

**Date:** Fri, 1 Dec 2006 12:55:50 -0500

**To:** "Ed Martin" <Ed.Martin@ncmail.net>

**CC:** "Knudsen, Kris W" <KWKnudsen@duke-energy.com>, "Campbell, William" <WCampbell@ensr.aecom.com>, "Donald VanderVaart" <Donald.VanderVaart@ncmail.net>, <chuck.buckler@ncmail.net>, "William Willets" <William.Willets@ncmail.net>

Ed,

I am responding to this email on behalf of Kris Knudsen. The SO2 modeling submitted in the Unit 6&7 October 2006 addendum does show that the facility is in compliance with the SO2 NAAQS. A comparison of the future plants modeled SO2 impacts to the modeling results submitted as a part of the Cliffside Units 1-4 Stack Height Extension Project (see Table 4 in Section 8 of that report) shows that future plant provides lower modeled concentrations resulting in a improvement in ambient air quality.

Avg Prd	Future Plant Impacts (ug/m3)*	Existing Plant Impacts (ug/m3)**
3-hr	356.61	882.8
24-hr	164.77	336.3
Annual	34.83	75.17

\* from Table 10-6 of Unit 6&7 October 2006 addendum

\*\* from Table 4 of Cliffside Units 1-4 Stack Height Extension Project report

Note short-term concentrations are the highest second highest predictions while the annual is highest.

Please let me know if you would like to discuss this further...

Thanks,  
Jeff Connors  
Project Specialist, AQES / Air Quality Meteorologist  
Direct: 978.589.3744  
ENSR  
2 Technology Park Drive  
Westford, MA 01886-3140  
T 978.589.3000, F 978.589.3374  
[www.ensr.com](http://www.ensr.com)

-----Original Message-----

From: Ed.Martin [<mailto:Ed.Martin@ncmail.net>]

Sent: Friday, December 01, 2006 9:58 AM

To: Kris W Knudsen

Cc: William Willets; Don vanderVaart; Chuck Buckler; Campbell, William

Subject: Re: Cliffside Modeling

Kris:

In the Unit 6&7 October 2006 addendum you modeled for SO2 and the results show you are below the NAAQS. However, the purpose was to show that when compared to the current facility, there will not be an increase in ambient impacts on the public for the new arrangement (as you discuss below). How does this modeling demonstrate that the impact on the ambient air is less for the new arrangement?

Kris W Knudsen wrote:

Ed,  
To address the issue you have raised below, Duke will demonstrate, through an additional modeling exercise, that the new facility will not show an increase in ambient impacts on the public as a result of netting for SO2.  
The modeling exercise will be based on the following methodology.  
The modeling analysis previously submitted by Duke for the Unit 1-4 Stack Height extensions should serve as a demonstration that the existing facility is NAAQS compliance and therefore this will be the basis from which we compare impacts from the future facility design too. This analysis included Units 1-4 and Unit 5 unscrubbed. That model showed that the facility can operate in compliance with the NAAQS based on the taller stacks that were subsequently installed on Units 1-4. That is, no further emission reductions are needed to demonstrate compliance for the facility as it currently exists.  
Duke would run a scenario with the future facility design (that is, with the new Units 6 & 7 and with Unit 5 modeled at its maximum allowable emission rate) to demonstrate that the future facility will also be in compliance with the NAAQS. Additionally, this analysis will also be configured to show that, when compared to the current facility as modeled for the Unit 1-4 Stack height extension analysis, there will not be an increase in ambient impacts on the public.  
Duke feels that this additional modeling exercise should satisfy DAQ's concerns about the future facility's SO2 impacts on the public. Based on the very low emissions from the new generating units as compared to the retired Units 1-4 and the GEP stack height that will be used for Units 5, 6, and 7, we are confident that the modeling will confirm that the overall impact on the ambient air is much less after completion of the proposed project. We did not initially feel this exercise was necessary because the emissions from the new units will be so low and Units 1-4 will be retired.  
Thanks,  
Kris Knudsen

"Ed.Martin"

<ed.martin@ncmail

.net>

To

Kris W

05/23/2006 11:16

Knudsen/Gen/DukePower@DukePower

AM

cc

Donald VanderVaart

<Donald.VanderVaart@ncmail.net>,

Donnie Redmond

<Donnie.Redmond@ncmail.net>,

Chuck

Buckler

<Chuck.Buckler@ncmail.net>,

Rahul Thaker

<Rahul.Thaker@ncmail.net>

Subject

Cliffside Modeling

Kris:

There is one other issue which may be related to modeling for these applications. There is a requirement in 51.166(b)(3)(vi)(c) that for a contemporaneous decrease (to be used for netting): "A decrease in

actual

emissions is creditable only to the extent that: ... (c) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change." As you know, we have a separate question on whether the Unit 5 SO2 reductions are based on a baseline that represents normal operation and can therefore be used to net. Regardless, it needs to be demonstrated that for the various proposed operating scenarios at the facility (U5 controlled + U1-4, U5 controlled + U6&7, etc), that the ambient impact on the public due to the change does not increase. Please let us know how Duke will comply with this requirement. Thanks

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