ENTERED

Allen, Pam, NMENV

From: Maestas, Ricardo, NMENV
Sent: Wednesday, June 25, 2014 3:30 PM
To: Allen, Pam, NMENV
Subject: FW: Questions about the ventilation for DOE
Attachments: Questions about the ventilation.docx

Importance: High

Email and att. for March

From: Kliphuis, Trais, NMENV
Sent: Tuesday, March 11, 2014 12:27 PM
To: Maestas, Ricardo, NMENV; Smith, Coleman, NMENV; Holmes, Steve, NMENV
Subject: FW: Questions about the ventilation for DOE
Importance: High

From: Kliphuis, Trais, NMENV
Sent: Tuesday, March 11, 2014 12:26 PM
To: Blaine, Tom, NMENV; Kieling, John, NMENV
Subject: FW: Questions about the ventilation for DOE
Importance: High

Attached are my current questions for DOE.

I won't send these to DOE until I get an OK from you.

In part, I am struggling with Butch's comment below. I don't understand his comment. I believe the design tolerance is a rate (1000 cfm at 210,000 cfm) not a set value of 1000 cfm as it seems he believes. If traveling at 210,000 cfm, the air after the first damper is slowed down to 1000 cfm and is then slowed again by the second damper (the actual rate of which is complicated but if you made some gross assumptions you can estimate – see attached sheet) ....

Do you have thoughts about this? I already discussed with my staff and they agree with the approach.

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From: Tongate, Butch, NMENV
Sent: Sunday, March 09, 2014 2:18 PM
To: Kliphuis, Trais, NMENV
Subject: RE: Questions about the ventilation for DOE

Hi, Trais,

140362

I still disagree on the issue of two dampers in series.
If the leakage on each damper is theoretically the same, i.e., 1000 cfm, whatever gets past the first damper is going to get past the second. There is no percentage reduction.

Questions about the ventilation/filtrations system, 3/11/2014

What is the control efficiency (CE) for the filtration as a whole?

It has been publically stated on numerous occasions that the filtration system worked and that the filters are working at 99.97% control efficiency. Is this correct?

Is this different than the CE for the HEPA bank? If so, why are they different and where in the design (specs and history) does it provide for a distinction?

The EIS for WIPP required a particulate reduction of 10^6. How does this correlate with the DSA required value of < or = 99%? Is the EIS value binding? If not, why not?

If each HEPA has a manufacturer specification of 99.97% and there are two in series in each bank, why isn't the reduction efficiency 99.9991%?

Is the filtration system tested or just the HEPA filter bank? If it is not tested as a system, why not?

There are two dampers in series. If one applies that design leak tolerance to the second louver (ignoring effect of different pressure differential) to get the total/final leaked value, it is: 63,000(1-.995)=315(1-.995)=1.575 cfm

Theoretically and grossly calculated, this should be the max value of contaminated air getting released by the dampers assuming operating at the designed specifications and applying the maximum leaking to both (second would probably be lower as flow would be more turbulent than laminar and pressure differential would be smaller). Is this correct? If not, please provide the correct calculations with explanation of assumptions. If so, was this ever discussed during the design phase? Is this considered part of the filtration system reduction (or lack thereof) efficiency? If not, why not?

On 3/5/2014 we were told that the dampers were leaking at 250 cfm. On 3/6/2014 we were told they were leaking at 1000 cfm. On 3/7/2014 we were told that the 1000 cfm leak rate was because of the windows cut in the ducts and were not an accurate value the leak rate. What is the correct leaking rate prior to window cutting and repair? How was it determined?