

INTEROFFICE MEMORANDUM

Date: 19-Oct-1994 09:05pm
From: Roger J. Zipfel
ZIPFEL
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TO: J. Ronald Layton (LAYTONJR AT A1 AT CFOC)
CC: PAT DUNCAN (DUNCANPJ AT A1 AT CFOC)
CC: ROBERT S. FRENCH (FRENCHRS AT A1 AT SPOC2)
CC: ROBERT L RITCHEY (RITCHERL AT ISCDCVM1)

Subject: RE: AIR VELOCITY IN CF STACKS

Ron, thanks for sending me the data on your vent systems. Our current vent stacks emitting C-8 are approximately 60 feet in the air with an air flow of 5000 CFM in a 20 in. Dia stack. Our C-8 concentration ranges from 100-150 PPM. With these conditions we can generate small areas of exposure above the community exposure guideline of 0.3 micro grams per cubic meter (actual level is 120% of the CEG.). For this reason and for C-8 recovery reasons we have chosen to install scrubbers on these stacks.

The conditions you have given me for the stacks at the Kinston site we have the following conditions.

Normal case is 4500 CFM in a 34 in. Dia stack.

Stack height is 45 feet.

Stack concentration would be approximately 100 ppb. (I calculated this based on 4500 cfm of air at 0.075 lbs/cubic foot, and 20 pounds per year C-8 per drier).

Based of our stacks your vent velocity is 1/3 of ours, your height is lower than ours but your concentration is 1000 times less than ours.

Therefore, even if your dispersion were only 10% of ours your six driers would still be below 10% (actually calculated 7%) of the CEG. This is a very safe operating range and requires no downstream abatement.

This level is so far below any point of concern that exhaustive dispersion modeling of your stacks (to improve on my estimate) is not warranted at this time.

It is my opinion that you need to do no additional work on C-8 analysis or monitoring at your site.

One thing that we have done at our site to keep local exposures to a minimum is to operate the driers slightly below atmospheric pressure. Will you be able to do this? When we operate above atmospheric conditions C-8 does escape into the operating areas giving us high C-8 levels. However, here levels never exceeded

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10 times the AEL. Here again your 1000 X less useage of C-8 would make this problem to be very small.

If you wish to proceed with more detailed calculations, I will gladly assist you in these.

Roger.

ps., I solicit opinions from all addresses of this memo.

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