



Correspondence

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From: Danny D. Reible, Director
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Date: March 6, 2001

To: Philip Asprodites, Commissioner of Conservation
Louisiana Department of Natural Resources

Re: *Comments on the draft comments on treatment cell separation distances*

We have reviewed the draft response from Dr. Ben Thomas on the estimation of the minimum safe distance between residences and land treatment cells. This memo is confirmation of the verbal report provided by Dr. Valsaraj as to the appropriateness and adequacy of Dr. Thomas' approach.

We agree with the concerns expressed by Dr. Thomas as to the appropriate amount of benzene to employ in the analysis. The distribution of waste benzene concentration is strongly skewed by the presence of a small number of high concentration samples. It is quite possible that the importance of these small number of samples would be reduced if we had a more complete characterization of each waste type. This is especially true in waste code 12 (gas plant waste) in which only 4 validated samples are assumed to characterize the waste type. We feel that Dr. Thomas' approach of the 90% limit value is a reasonable one and one that allows, in principle, a valid estimate of a reasonable maximum exposure. It should be emphasized, however, that any statistical measure, including mean, median or 90% limit value, will be very uncertain for waste code 12 due to the small number of samples.

We have also reviewed the results of Dr. Thomas' analysis and we feel they are consistent with the assumptions and approach taken. It should be noted, however, that the calculations depend upon the waste volumes and other information presented in the final report on Phase III. The DNR web site still contains a draft version of the Phase III report which is not consistent with the information presented in this memo. To avoid confusion, it is recommended that the draft report be removed from the DNR web site.

The distances shown in the table of the memo indicate distances from the edge of the treatment cells. Since the air model used calculates from the center of the treatment cells, the model results are corrected for distance from the center of the cell to the edge (approximately 230 ft). As a result, waste code 07 shows a distance of -40 ft for the minimum distance from the edge of the cell. That is, the model predicted a minimum distance from the center of the cell of about 190 ft. To avoid confusion, we have recommended to Dr. Thomas that he remove the reference to a negative distance. In addition, it is unclear whether this distance correction was incorporated in the Phase III report. Given the significant change in minimum distance from the 500 ft used in Phase III with a relatively small change in concentration (e.g. in waste code 05), we suspect that the Phase III report did not incorporate this correction and that the calculation of MPC_{res} assumes 500 ft from the center of the cell. Thus the MPC_{res} predicted in Phase III are conservative in that they are lower than required to achieve the MPC criteria 500 ft from the edge of the cell. Dr. Thomas is reviewing his calculations to see if this is the case.

If you have any questions, please do not hesitate to contact us.