U-007-105.7

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CONDITIONAL APPROVAL OF THE FINAL GROUNDWATER MODELING REPORT

06/17/93

OEPA/DOE-FN
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COMMENTS

OhioEPA
State of Ohio Environmental Protection Agency

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George V. Voinovich
Governor

June 17, 1993

Mr. Jack R. Craig
Project Manager
U.S. DOE FEMP
P.O. Box 398705
Cincinnati, Ohio 45239-8705

Dear Mr. Craig:

The purpose of this letter is to conditionally approve the Final Groundwater Modeling Report. The conditions for approval are that DOE address, to Ohio EPA satisfaction, the attached comments.

If you have any questions about these comments please contact me.

Sincerely,

Graham E. Mitchell
Environmental Manager

GEM/mlf

cc: Jenifer Kwasniewski, DERR
Tom Schneider, DERR
Mike Proffitt, DDAGW
Jim Saric, U.S. EPA
Dennis Carr, FERMCO
Lisa August, Geotrans
Jean Michaels, PRC
Robert Owen, ODH

(YERACE)
PARTIAL
ACTION RESPONSE
to DOE-1959-93
(6138)

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Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 5.1.5 Page: 5-14 Line: Comment Code: C

Comment No.

Comment:

As was previously commented on in the Draft Groundwater Report, a table of posted residuals (observed minus the simulated heads) would be very informative. This would be similar to the concentration comparisons (Table 6-3 for example). Further ~~it~~ would be used to prepare a chart of measured versus simulated to examine for clustering.

this

Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 5.2.3 Page: 5-34 Line: Comment Code: C

Comment No.

Comment:

A brief discussion of the vertical head gradient is presented, but the significance is understated. In Appendix D of the 1992 Groundwater Report, hydrographs of the 1000 wells are presented, followed by grouped 2000, 3000, and 4000 series wells. While most of the 2000, 3000 and 4000 locations show little head variation, some do. For example, at the -001 site in the northwest portion of the site, there is 1 to 2 feet of downward head differential. At the -018 site in the western-central portion, there is a 10-foot upward head difference. At the -006 site in the extreme northwest, there is a 18-foot upward head differential.

Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 5.2.4 Page: 5-50 Line: Comment Code: C

Comment No.

Comment:

In the draft report, particle tracking results in the regional three-dimensional flow model were presented. These were very useful and informative. These results should not have been excluded. These are the baseline "no-action" scenario.

Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 5 Page: Line: Comment Code: C

Comment No.

Comment:

Data sets previously reviewed in 1992 (i.e., 3DS9-63.dat, received on January 1991) were identified as having negative thickness grid blocks. This is not realistic and the computer program was never designed to address such input. Because the same computer output files are presented in the final report, it is assumed that either the data input errors were found to be insignificant or that the model simply allowed physically unrealistic values to read into the code and forced the values to zero. In other words, there is no evidence in the final report that the model results were checked.

Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 6.2.2 Page: 6-14 Line: Comment Code: C

Comment No.

Comment:

The new Figure 6-7 compares the regional and local simulated heads. It is not clear why the boundary heads do not match exactly. If the local model is based on interpolation of fixed heads from the regional model, then the two models should coincide along the model perimeter. There is a significant

deviation between the regional and local model in the northern portion of the grid beneath Paddy's Run. The difference appears to be the result of an error either in establishing the perimeter fixed heads or in the recharge flux rate used to represent Paddy's Run. These differences should be explained. The model nesting procedure should not create such significant differences along the model perimeter.

Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 6.3 Page: Line: Comment Code: C

Comment No.

Comment:

All results for retardation factor of 9 have been moved into Appendix C. The main text refers confidently to the case with a retardation of 12. The implication is that the sensitivity runs (Table 21-8 in the Groundwater Report) are less important (appearing on the last page).

Commenting Organization: Ohio EPA Commentor: GeoTrans

Section: 6.3 Page: Line: Comment Code: C

Comment No.

Comment:

The 70-year predictions have been removed from the draft report. These runs can be described as the "no-action" scenario. These should not have been removed in the final report.