



Department of Energy

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JUL 20 2000

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

DOE-0858-00

Dear Mr. Schneider:

DIAZINON USAGE IN AREA 1, PHASE I WETLAND MITIGATION AREA AT THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Reference: Ohio Environmental Protection Agency (OEPA) letter from T Schneider to J. Reising, DOE-FEMP, "Diazinon Usage in A1P1 Wetland Mitigation Area," dated June 15, 2000

This letter summarizes the actions completed and planned by the Department of Energy (DOE) in response to the referenced Ohio Environmental Protection Agency (OEPA) letter concerning the use of Diazinon in the Area 1, Phase I (A1PI) Wetland Mitigation Project area. Diazinon-based pesticide granules were applied on May 31, 2000, to the ground surface surrounding the two air monitoring stations located in the wetland area in an attempt to control insect infestations within the air monitoring equipment housings. Summarized below are also the findings of the investigation undertaken as a result of the OEPA's notification to DOE. As requested, the Natural Resource Trustees are on distribution for this letter as well.

The DOE recognizes that the application of this pesticide in proximity to the wetland area was not performed in accordance with the package instructions. As a result of OEPA's notification, DOE and Fluor Fernald, Inc. personnel conducted an extensive review of the event and took actions to mitigate any potential adverse impact to the wetland biota. On June 15, the remaining Diazinon granules, as well as a portion of the superficial soil, were removed from the ground surface at each air monitoring station. The other actions taken or planned are detailed below (many of these actions were conveyed to the OEPA via electronic mail on June 15, 2000):

- 1) A critique was held on June 15 to examine the improper application of the Diazinon, identify corrective actions to mitigate any potential impact to the wetland, and develop a course of actions to prevent any recurrences of a similar nature.

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- 2) The necessity of insect control at these two air monitoring stations and within other restored areas will be scrutinized for any potential ecological impacts. Diazinon and other pesticides having a potential for impact to the wetland system will not be utilized in the future. The OEPA will be informed of any planned controls or chemical applications before they are applied in restored areas.
- 3) Revisions to two site procedures have been initiated, one relevant to pesticide handling and application and another concerning access to certified areas. The revisions require written approval from the Fernald Environmental Management Project's (FEMP) Natural Resources Manager prior to use of any pesticide or insecticide in an area posted as a restored area or certified area. A widespread notice will also be issued to inform site personnel of the restriction on the use of chemicals within restored areas.
- 4) A procedure is being developed for conducting work activities in restored areas. Notification of the Natural Resource Manager will be required prior to any work activities in restored areas. Notification requirements will be clearly posted at access points to restored areas.
- 5) On June 16 and 17, the DOE Fernald Natural Resource Trustee conducted a qualitative evaluation of impacts to macro-invertebrate populations in the wetland adjacent to the two air monitoring stations. During the evaluation, an investigation of the surface water and sediment in the wetland was carried out. The following families of macroinvertebrates were identified during the evaluation in seemingly normal population numbers: Darners, Skimmers, Mayfly, Damselfly, Diving Beetle, Water Strider, Water Boatman, Crayfish, and Snail. No abnormal absences in the families of macroinvertebrates were identified during the evaluation. Further, no mortality was witnessed. There has also been no observation of adverse impacts to waterfowl and other wildlife in the wetland area since the application of the Diazinon.
- 6) The investigation included interviews with the individual responsible for the oversight of applications of restricted-use pesticides and individuals that were present during the application. The individual is currently licensed by the Ohio Department of Agriculture per OAC 901.5 and has met the continuing education credits as required. Due to the small area to be treated at the two air monitoring stations near the wetland system, the laborer made a field decision to spread the Diazinon by hand in the localized area rather than using a hand-held rotating spreader which broadcasts the granules over a larger area. Light watering of the insecticide after application was not performed in accordance with the instructions.
- 7) In order to rectify the work process that lead to the misapplication of the pesticide, two laborers will be permanently assigned, rather than rotating laborers, to apply herbicides and pesticides under the direction of the licensed applicator. Additional training for the laborers will also be pursued to augment their understanding of the

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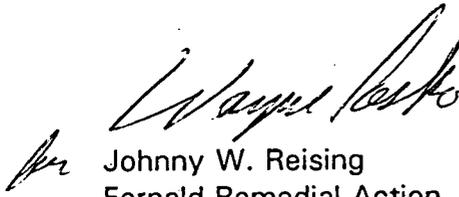
regulations. Additionally, the licensed applicator will maintain an up-to-date, controlled map of the site that clearly identifies restored areas in order to avoid any placement of pesticides or herbicides in these areas.

The DOE does not believe that surface water sampling within the Basin #4 pond and Basin #7 swale is necessary given the actions taken to remove the Diazinon pellets and superficial soils and based on the chemical properties of Diazinon. According to reference literature, Diazinon has a relatively low water solubility with hydrophobic properties in comparison to other organophosphate pesticides. Diazinon reportedly has a breakdown rate (half-life) of two to four weeks and seldom migrates below the top half inch in soil. As additional information, the FEMP received approximately one inch of rainfall from May 31 to June 15 during four separate rain events.

The DOE is confident that the measures taken to remove the remaining Diazinon at the two air monitoring stations were sufficient to eliminate the potential impact to the wetland system. The administrative actions taken and planned within the affected organizations will prevent a similar occurrence in the future.

If you have any questions concerning this subject, please contact Pete Yerace at (513) 648-3161 or Kathleen Nickel at (513) 648-3166.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

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