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**MEMORANDUM**

TO: Stephanie Kruse, RCRA Permits Program

FROM: Ron Kern, Manager, RCRA Technical Compliance Program *RK*

DATE: May 31, 1996

SUBJECT: **Technical Comments on Philips Semiconductors' (PS) May 24, 1996 Quarterly Groundwater Monitoring Report**

The RCRA Technical Compliance Program was requested by the RCRA Permits Program to review and provide technical comments on the May 24, 1996 document "North American Philips Company Quarterly Groundwater Monitoring Report". PS also indicated in this document the facility's preference for conducting future groundwater monitoring on a semi-annual basis. I recommend that a baseline of quarterly groundwater monitoring data be required for the first full year. A facility proposal for a "relaxed" schedule of groundwater monitoring can be evaluated by NMED at the end of the first year. Additionally, in the May 27, 1996 cover letter to this document, PS requested a variance from the permit requirement of analysis for all 40 CFR Appendix IX constituents. Available analytical data, including the current groundwater monitoring report, indicate that Volatile Organic Compounds (VOC), Semi-VOCs, metals, and certain pesticides (e.g. dieldrin and chlordane) have been detected in landfill waste and/or groundwater. I recommend that PS should analyze all groundwater samples for VOCs, Semi-VOCs, metals, and organochlorine pesticides during the first full year of quarterly groundwater monitoring. A facility proposal for analysis of a reduced list of constituents can be evaluated by NMED at the end of the first year.

Technical comments on this report are included as Attachment 1.

cc: Teri Davis, RCRA Technical Compliance Program  
Barbara Hoditschek, RCRA Permits Program

**TECHNICAL COMMENTS**

**NORTH AMERICAN PHILIPS COMPANY  
QUARTERLY GROUND-WATER MONITORING REPORT**

**MAY 24, 1996**

RESPONSE TO PHILIPS SEMICONDUCTORS' (PS) REQUESTS

1. In the May 27, 1996 cover letter to the May 24, 1996 groundwater monitoring report, PS requested a reduction of groundwater monitoring requirements. Specifically, although the facility permit requires analysis of all 40 CFR Appendix IX constituents, PS requests a reduction to testing for Volatile Organic Compounds (VOC) in future sampling events.

Available analytical data and information, including the current groundwater monitoring report, indicate that VOCs, Semi-VOCs, metals, and certain pesticides (e.g. dieldrin and chlordane) have been detected previously in landfill wastes and/or groundwater. PS must analyze all samples minimally for VOCs, Semi-VOCs, metals, and organochlorine pesticides of the 40 CFR Appendix IX list during, at least, the first full year of quarterly groundwater monitoring.

2. On page 12 (Section 5) of the Report, PS suggests "...that future ground-water monitoring be performed on a semiannual schedule..."

The New Mexico Environment Department (NMED) requires a baseline of quarterly groundwater monitoring data for the first full year of sampling.

SPECIFIC COMMENTS ON THE QUARTERLY GROUNDWATER MONITORING REPORT

1. Page 9, Section 4.3: **Concentrations of PCE [tetrachloroethene] in ground-water samples...[were] less than the NMWQCC standard of 20 ug/L.**

Applicable groundwater standards for Resource Conservation and Recovery Act (RCRA) detection, assessment, and/or corrective action purposes include, but are not limited to, standards promulgated by the New Mexico Water Quality Control Commission (NMWQCC) and Maximum Contaminant Levels (MCL) established by EPA under the federal Safe Drinking Water Act. The Hazardous and Radioactive Materials Bureau (HRMB) utilizes the more stringent of these standards. The MCL for PCE is 5 ug/L. The

concentrations of PCE in monitoring well MW-1 (7.4 ug/L) and monitoring well MW-2 (6.9 ug/L) currently exceed the MCL for PCE and are of definite concern to HRMB and NMED.

2. Appendix A, Volatile Organics Analysis Reports.

The Method Detection Limits (MDL) equal or exceed the MCL or NMWQCC standards for several VOCs. Specifically, for vinyl chloride, the MDL (10 ug/L) is greater than the NMWQCC standard (1 ug/L); for 1,2-dibromo-3-chloropropane, the MDL (5 ug/L) is greater than the MCL (0.2 ug/L); the MDL for 1,1-dichloroethene (5 ug/L) equals the NMWQCC standard; and the MDLs for methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, trichloroethene, and tetrachloroethene (5 ug/L) all equal the MCL. MDLs should always be less than MCLs and NMWQCC standards. PS may have to use a larger sample volume to ensure that laboratory MDLs are adequate.

CONCERNS ABOUT THE GROUNDWATER MONITORING SYSTEM AT PS

1. NMED is concerned that the current groundwater monitoring system has wells with excessive screen lengths (> 20 feet) at the water table. Guidance and the rationale for monitoring well screen lengths are addressed in EPA's "**RCRA Ground-Water Monitoring: Draft Technical Guidance**" (Section 5.1.2.3; November 1992). HRMB utilizes this guidance for the purposes of detection, assessment, and/or corrective action groundwater monitoring. Monitoring wells, properly constructed, and with screen lengths of less than 20 feet, should be installed at PS.
2. Based upon the data provided by PS in the May 24, 1994 Quarterly Groundwater Monitoring Report, NMED is concerned that the "upgradient" monitoring well (MW-2) indicates PCE contamination in the groundwater. NMED is also concerned about the adequacy of "downgradient" monitoring well MW-3, which has no "detects" of hazardous constituents. Coupled with the concerns of appropriate monitoring well screen lengths, NMED considers that the current groundwater monitoring system is inadequate to address detection and assessment needs properly. NMED would like to discuss monitoring well siting and construction criteria with PS.