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COLORADO DEPARTMENT OF HEALTH

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Roy Romer
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Executive Director

July 14, 1989

Mr Ed Goldberg
Acting Rocky Flats Office Manager
U. S. Department of Energy
P. O. Box 928
Mail Room - Bldg. 115
Golden, CO 80402

ADMIN RECORD

Dear Mr. Goldberg·

I am writing on behalf of the Colorado Department of Health to address several issues relating to proposed discharges to Walnut and Woman Creeks from the Rocky Flats Plant holding ponds. It is our hope that the written protocol regarding sampling and analysis of the ponds and approval of any release can be finalized immediately.

We intend to determine the acceptability of any discharge largely with respect to the temporary water quality classifications and standards adopted by the Water Quality Control Commission on July 11, 1989. As you know, numerical standards have been adopted for physical and biological, inorganic and metals parameters, as well as for a list of organic chemicals and radionuclides. A copy of the Commission's standards is enclosed for your information.

Assessment of the water in ponds A-4, B-5 and C-2 to determine compliance with the standards will require extensive analysis of water samples prior to discharge. Specifically, the following sets of analyses are necessary

1. Analysis for volatile organic compounds (VOC's) by the EPA 502.2 method,

2. Analysis for other organic compounds by a base/neutral and acid (BNA) extraction procedure, followed by GC-MS analysis (EPA methods 3650 and 624 or 625),

3. Analysis for atrazine, simazine (triazines), organochlorine pesticides, and phenoxyacid herbicides, using standard EPA methods.

4. Analysis for the twelve metals for which the Commission has adopted standards. Analysis should be for total recoverable metals, except for iron and manganese, for which dissolved standards have been adopted. Initial analysis for chromium may be for total chromium, with followup analysis for hexavalent chromium if the total value exceeds 50 ug/l,

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5. Analyses for pH, nitrite, nitrate, chloride, sulfate, boron and cyanide, each by standard methods. The cyanide analysis should be for weak dissociable cyanide,

6. Radionuclide analysis for gross alpha, gross beta and tritium. If the results of these analyses indicate the likelihood that other specific radionuclides could be present at levels exceeding the standards adopted by the Commission, further specific analyses for plutonium and other radionuclides will be necessary.

This set of analyses has been determined to be appropriate to assess water quality prior to the discharge that the Department of Energy hopes to make in approximately one week. Once further information is developed, in the near future, regarding the plant site and ambient water quality in the vicinity, it may be appropriate to revise the specific set of analyses required prior to future proposed discharges.

Finally, the Health Department requests that the Department of Energy assess the use at the Plant site of three specific chemicals which preliminary analyses have indicated may be of potential concern. First, two pesticides have been detected in EPA and Health Department analyses of ponds A-4 and B-5· atrazine and simazine. The Commission has not set specific standards for these chemicals at this time Our best current information regarding drinking water criteria for these pollutants is a proposed maximum contaminant level (MCL) for atrazine equal to 3 ug/l, and an EPA health advisory for lifetime exposure to simazine equal to 4 ug/l. To date, these substances have not been detected in ambient stream samples or drinking water samples taken downstream. However, any sources of these chemicals should be identified and controlled to avoid potential problems in the future. As we discussed at our meeting on July 13, if the pre-discharge sampling that is about to occur indicates levels in the ponds of these (or other) chemicals above the current standards or criteria, DOE will need to take the necessary steps to treat the water to acceptable levels, contain the water to avoid discharge, or provide other appropriate assurance that downstream uses will not be adversely impacted by a discharge.

Second, as you know, analyses to date have identified no parameters of concern above standard detection levels in the streams, reservoirs or drinking water supplies below Rocky Flats. As part of an exhaustive attempt to assess any potential for contamination of these water supplies, unusually sensitive special analyses of several samples have recently been completed by the Health Department lab. These analyses have identified extremely low levels of a chemical--1,1,2,2 tetrachloroethane--in a small percentage of the samples analyzed to date. Our preliminary information indicates that this chemical has several potential uses, including as a solvent and in weed killers, soil sterilants and insecticides.

These trace levels, which are below the quantitation limit of one part per billion, appeared in two samples taken since June 10 from ponds A-4 and B-5, five samples from Walnut and Woman Creeks, two samples from Standley Lake, and five samples from the Broomfield, Northglenn and Thornton water supplies. Approximately thirty other samples from the drinking water supplies withdrawn from the two reservoirs--including the most recent results--have detected no 1,1,2,2 tetrachloroethane, even using the more sensitive analytical technique.

The results just described do not indicate any significant health risk. The traces detected would not constitute a violation of the Commission's recently adopted standards. Furthermore, they would be reported as "non-detectable" by most labs. Moreover, even minor trace levels are not present in the most recent samples. It also cannot be determined with any certainty at this time that the trace levels identified originated from the Rocky Flats Plant. Analysis to assess other potential sources is in process. However, out of an abundance of caution and to assure the continued future safety of the drinking water supplies located downstream of Rocky Flats, we are requesting that the Department of Energy thoroughly investigate and immediately eliminate any potential discharges of 1,1,2,2 tetrachloroethane.

Should you have any questions regarding these matters, please call me at 331-4526. Thank you for your prompt attention to these important matters

Sincerely,

Paul D. Frohardt

Paul D. Frohardt
Rocky Flats Program Manager

cc: Bill Christopher - Westminster City Manager
Jack Ethridge - Thornton City Manager
James Landeck - Northglenn City Manager
Neal Berlin - Arvada City Manager
George De Ciero - Broomfield City Manager
Tim Holeman, Governor's Office
Bob Shankland, EPA

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