

9551.1990(13)

NO-MIGRATION PETITION FOR AMOCO REFINERY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NOV 8 1990

Mr. R. B. Sheldon
Manager
Amoco Casper Refinery
P.O. Box 160
Casper, Wyoming 82602

Re: No-Migration Petition submitted for Amoco's Casper Refinery
Land Treatment Unit (F-90-NACP-FFFFF)

Dear Mr. Sheldon:

I am writing in regard to your October 24, 1989 "no-migration" petition, which requests a variance under 40 CFR §268.6 to allow Amoco Oil Company to continue the land treatment of restricted wastes (EPA Hazardous Waste Nos. X049 and K051) at Amoco's Casper Refinery land treatment unit (LTU). After a careful review of your petition, we have concluded that your facility does not meet the standard for a no-migration finding. Therefore, we will recommend to the Assistant Administrator for Solid Waste and Emergency Response that the petition be denied.

Our decision to recommend denial of the petition regarding the land treatment facility is based on two main concerns;

- Ground-water monitoring data indicate that hazardous constituents have already migrated beyond the unit boundaries.
- The ground-water monitoring system for the land treatment facility is inadequate for the purpose of a no-migration variance because it will not be able to detect migration at the earliest practicable time due to the presence of hazardous constituents beneath the land treatment units.

The details of our concerns are described below.

Presence of Hazardous Constituents Below the Treatment Zone

Our review of Amoco's 1989 ground-water monitoring report for the LTU submitted subsequent to its petition indicates that migration of hazardous constituents beyond the unit boundaries has already occurred. Attachment 1 indicates that exceedance criterial values were surpassed on 54 occasions, and, on 11 occasions, concentrations surpassed both the exceedance criteria and the health-based level for the following analyses: antimony, beryllium, chromium, and lead. Respectively, the maximum downgradient concentration as compared to the health-based level for each metal is (in mg/l): 0.26 vs. 0.005, 0.03 vs. 0.002, 0.327 vs. 0.035, and 0.07 vs. 0.002. Therefore, we can only conclude that these data provide evidence of migration from the unit.

Benzene was also found above the health-based level of 5 ug/l in downgradient well LF-43 during the second and fourth quarters at concentrations of 17 and 6 ug/l, respectively. Because benzene was not reported in any of the upgradient wells, we have concluded that benzene has migrated beyond the unit boundaries.

Detecting Migration at the Earliest Practicable Time

We believe that Amoco is unable to detect migration from the treatment unit to the ground water at the earliest practicable time and therefore has failed to meet the requirements of 40 CFR §268.6(a)(4). Specifically, we are concerned that Amoco will be unable to determine the occurrence of migration directly beneath the LTU and that Amoco has not identified an acceptable method of differentiating between "background" contamination and releases from the LTU.

Analysis of ground-water monitoring data indicates the presence of contaminants in upgradient, as well as downgradient, wells near the LTU. In addition, Amoco has suggested that prior tank farm activities in the vicinity of the LTU, particularly on the eastern side, may contribute to downgradient contamination. Several problems arise from these conditions which contribute to the deficiency of Amoco's monitoring program.

Amoco speculates that petroleum contamination in the ground

water and soils both upgradient and downgradient of the LTU (and

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- 1 The RCRA permit for the facility establishes exceedance criteria for compliance purposes; these include "critical values" for metals and "reporting limits" for organics (page 6).

possibly beneath the plots as well) is derived from leakage from petroleum storage tanks that previously occupied the area. Amoco, however, has provided neither analytical results that describe the possible source(s) nor an adequate plan to differentiate releases from the LTU from such a source. Because the constituents of a weathered petroleum product plume would likely be very similar to a release from the LTU, it would be difficult to discern one from the other. Furthermore, since the concentration of a contaminant from an upgradient source would be higher closer to the source, the dilution effect as the plume moves downgradient would likely mask concentrations due to a release from the LTU, making a statistical comparison meaningless.

Amoco has suggested that because the ground-water samples show similar characteristics, they are most likely derived from a common, upgradient source. As noted by Amoco, similar characteristics are to be expected in the various fractions of crude and refined oil found within the refinery. However, the samples from the downgradient wells indicate a wider variety of benzene, ethylbenzene, toluene, and xylene than the upgradient samples, an observation that is contrary to what would be expected from a common source.

Completeness of Petition

Finally, we have found that the petition is incomplete and that information and clarification, in areas beyond those highlighted above, would be needed to complete the petition. However, because of the problems noted above, we believe we have enough information at this time to move toward a denial of your petition.

It is our practice to give petitioners the option of withdrawing their petitions to avoid a negative publication in the Federal Register. If you prefer this option, you must send

us a letter withdrawing your petition and acknowledging that the petitioned wastes are still considered to be restricted wastes subject to the Third Third Land Disposal prohibitions scheduled to be effective November 8, 1990. This letter should be forwarded to the following address within two weeks of the date of receipt of today's correspondence:.

Patricia Cohn, Acting chief
Assistance Branch (OS-343)
Office of Solid Waste
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

If you choose not to withdraw your petition, we will recommend that a proposed denial decision be published in the Federal Register.

Any questions regarding our findings may be submitted in writing to Mr. James Michael of my staff.

Sincerely,

Original Document signed

Jeffery D. Denit, Deputy Director
Office of Solid Waste

Attachment

cc: Carol Campbell, Region VIII
Felix Flechas, Region VIII
Patricia Cohn, PSPD, OSW
James Michael, PSPD, OSW
Terry Keidan, PSPD, OSW