



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2466

Ref: 8EPR-F

Ms. Regina Sarter  
Department of Energy  
Rocky Flats Office  
P.O. Box 928  
Golden, CO 80402-0928

**Re: MST Hillside Stabilization**

Dear Ms. Sarter:

EPA has reviewed your letter dated November 16, 1998, in which you described DOE's rationale for not stabilizing the hillside below the modular storage tanks (MSTs). Since DOE has committed to construction this year of a new system for collection and treatment of the groundwater contaminated by the former Solar Ponds, the MSTs will only be needed for storage of this water until the new system is completed, approximately September 1999. The cost of approximately \$250,000 to stabilize this hillside is excessive and not justified, since alternative measures could be employed for the temporary management of this water, if necessary. Therefore, EPA concurs with your proposal to abandon all efforts to stabilize this hillside, and apply the funds that would have been for that purpose to other projects that will provide longer term benefits to the environment.

If you have any comments or questions, please contact Gary Kleeman at 312-6246.

Sincerely,

Tim Rehder, Manager  
Rocky Flats Project

cc: Norma Castaneda DOE  
Carl Spreng, CDPHE  
Lane Butler, Kaiser-Hill  
Dave Shelton, Kaiser-Hill

ADMIN RECORD

IA-A-003024



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## STATE OF COLORADO

Roy Romer, Governor  
Patti Shwayder, Executive Director

*Dedicated to protecting and improving the health and environment of the people of Colorado*

**HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION**  
<http://www.cdphe.state.co.us/hm/>

4300 Cherry Creek Dr. S. 222 S. 6th Street, Room 232  
Denver, Colorado 80246-1530 Grand Junction, Colorado 81501-2768  
Phone (303) 692-3300 Phone (970) 248-7164  
Fax (303) 759-5355 Fax (970) 248-7198



**Colorado Department  
of Public Health  
and Environment**

November 23, 1998

Ms. Regina Sarter  
RFCA Project Coordinator  
Department of Energy-RFFO  
P.O. Box 928  
Golden CO 80402-0928

RE: Hillside stabilization below the modular storage tanks (MSTs)

Dear Ms. Sarter:

The Hazardous Materials and Waste Management Division of the Colorado Department of Public Health and Environment (the Division) concurs with the proposal to abandon the MST hillside stabilization project. We expect that all reasonable efforts will be taken to minimize use of the A-series ponds to contain waters released from either an unintentional line break or during installation of the Solar Ponds Plume (SPP) remediation system. The Division's concurrence is contingent upon being informed of plans relating to the disposition of those waters transferred to the ponds. We recommend that the proposed schedule be revised to avoid the wetter spring months to facilitate installation and to minimize the amount of SPP water transferred to the ponds. We also request that impacts of the remediation project to the Prebles meadow jumping mouse habitat be discussed with appropriate agencies and communicated to the Division.

If you have any questions concerning these comments, please contact Carl at (303) 692-3358 or Steve at (303) 692-3367.

Sincerely,

Steven H. Gunderson  
RFCA Project Coordinator

Carl Spreng  
Federal Facilities Program

cc: Norma Casteñeda, DOE  
Lane Butler, K-H  
Tim Rehder, EPA  
Dan Miller, AGO  
Steve Tarlton, RFOU

United States Government

Department of Energy

# memorandum

Rocky Flats Field Office

DATE: APR 29 1998  
REPLY TO  
ATTN OF: AMEC:AIG:JER:03354  
SUBJECT: Temporary Modular Storage Tanks  
TO: Alan Parker, Vice President  
Closure Programs Integration  
Kaiser-Hill Company, L.L.C.

The hillside slump below the Temporary Modular Storage Tanks (TMST) for Interceptor Trench System water has caused concern for the safe use of Tank "C." We assume you will not be using the tank until all geotechnical surveying and engineering analyses are complete and that you will inform us immediately if this assumption is not correct or if there are any changes. In the meantime, we plan to review the recommendation from those studies and expect to be consulted regarding the usability of Tank "C" before any decisions are made.

We also assume you will be taking mitigating measures to protect the hillside from further sloughing. This may include more adequate and reliable cover of the slump, diversion of tank-pad water runoff away from the slump area, or other measures you deem appropriate to stabilize the slope.

During December of 1997 the Rocky Flats Field Office and K-H exchanged correspondence regarding this issue. K-H committed to provide a comprehensive response during the Spring of 1998. Because of the recent slumping and in anticipation of the Spring rains, we believe this matter needs more immediate attention.

Please submit a summary of the engineering data of the hillside's stability with sufficient information and rationale to support both short-term and long-term decisions on tank usage and a hillside stabilization project. You are requested to report on the status of your findings within ten days of the date of this memorandum.

This technical direction is not intended to impact the cost, schedule, or scope of the contract. If you believe there will be such an impact, you should immediately notify the Contracting Officer's Representative and the Contracting Officer and not implement the technical direction received.

If you have any questions, please contact me at extension 5878 or Joseph Rau at extension 7410.



Keith A. Klein  
Deputy Manager for Technical Programs

cc:  
M. Weis, AAMGO, RFFO  
C. Dan, AMGO, RFFO

United States Government

Department of Energy

Rocky Flats Field Office

# memorandum

DATE: DEC 15 1997

REPLY TO  
ATTN OF: AMEC:AI:JER:05455

SUBJECT: Temporary Modular Storage Tank Hillside Stability

TO: David Waite  
Health and Safety  
Kaiser-Hill Company, L.L.C.

Attached is an engineering summary regarding hillside stability of the southeast slope of the Temporary Modular Storage Tanks. This issue was also raised on September 26, 1997, in the presentations given in the Project Baseline Summary Validation Site Change Control Board Meeting. At that time the slope stabilization was identified as a potential problem of some concern, and Kaiser-Hill (K-H) indicated that it would attempt to find the funds to take corrective action. A variety of indicators would suggest that no action is planned in correcting the sloughing occurring on this slope.

Please provide K-H's definitive position with regard to the conditions described in the attached engineering summary; your assessment as to the severity of consequences if current conditions are left unaddressed; and what preventative maintenance will be performed and when if the previous option is unacceptable. I would appreciate a response two weeks from receipt of this memorandum.

This technical direction is not intended to impact the cost, schedule, or scope of the contract. If you believe there will be such an impact, you should immediately notify the Contracting Officer's representative and the Contracting Officer, and not implement the technical direction received.



Keith A. Klein  
Deputy Manager for Technical Programs

Attachment

cc w/Att:  
L. Lewis, AMGO, RFFO  
S. Surovchak, ESD, RFFO  
J. Stover, RLG, RFFO  
J. Rau, AI, RFFO  
N. Cypher, K-H

## INFORMAL MEMO

DATE: November 3, 1997

FROM: Milton Haas, Engineering Support Division

TO: Joe Legare, Environmental Compliance

SUBJECT: Temporary Modular Storage Tank Hillside Stability

At your request, the Engineering Support Division has reviewed the status of the KH and RMRS evaluation of the stability of the southeastern slope at the Temporary Modular Storage Tank Slope (TMST) site. We discussed the conditions at the site, their proposed corrective actions reviewed the geotechnical report prepared by the RMRS consultant.

The Temporary Modular Storage Tanks provide storage capacity for surface and groundwater collected by the Interceptor Trench System located to the north of the Solar Evaporation Ponds. The three 500,000 gallon nominal capacity storage tanks located on the south slope of the Walnut Creek drainage were permitted under an Interim Measure/Interim Remedial Action (IM/IRA) and constructed in 1992 by the Solar Ponds Project. Water collected by the Interceptor Trench System (ITS) is pumped from the sump beneath the A pumphouse, through the B pumphouse and into one of the TMST's where it is held pending demand by the B-374 liquid waste evaporators. As needed, water is then pumped from the storage tank via double walled, underground lines, back through the A & B pumphouses, into and out of the northwest corner of B-910, and through the Above Ground Transfer Line to B-374 for processing. At least one nominally empty tank is required for standby in case of a leak from the operational tank(s). A water transfer system was designed, fabricated, and is stored at the site for immediate use if a leak should occur. The large capacity pump for the transfer system is stored and maintained at a separate location by RMRS.

Several large cracks associated with slumping of the land surface of the southwest slope of the TMST site were discovered during routine inspections in the summer of 1997. The slumping caused cracking and subsidence of the asphalt pad to the southeast of the easternmost tank. Additional slumping and land surface subsidence toward the northwest may eventually destabilize the foundation of this tank and result in a RCRA discharge. Woodward-Clyde conducted a subsurface investigation in late 1996 through early 1997 to determine the cause of the slumping and recommend remedial actions. The company recommended that the slump cracks be temporarily covered with a heavy mil plastic tarp to prevent the introduction of surface water into the soil fractures and reduce the potential for additional downhill slumping of the slope. One large section of this cover has slid 20 to 30 feet downhill from the surface crack. RMRS requested labor support from DynCorp to replace the tarp several weeks ago, but nothing has been done. The recommended permanent solutions include soil nailing or emplacement of a stabilizing soil berm at or near the base of the hillside. RMRS supports the soil nail option and has estimated the cost of the action at \$160,000. KH has refused funding to authorize additional evaluation and corrective action for the hillside slumping.

The ESD supports the need for immediate corrective action at the site, but does not entirely agree with the assumptions made by the consultant to support the current recommendations. Woodward-Clyde assumed the depth to ground water beneath the entire site, including below the slumps, was less than three feet below land surface. This is an impossible assumption, as is supported by previously existing and current ground water monitoring, and may substantially exaggerate the required stability factor for the hillside. This does not belittle our concern for the stability of the hillside, but rather our fear that the required action and consequent cost is based upon an extremely conservative, pessimistic calculation of existing and required hillside stability factors. This concern was communicated to the RMRS engineering representative. RMRS is willing to seek a second opinion prior to committing to a course of action.

If you have any further questions or require additional support regarding this issue please feel free to call Scott Surovchak at extension 3551.

cc:

D. Lowe, AME, RFFO

S. Surovchak, ESD, RFFO

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# STATE OF COLORADO

Bill Owens, Governor  
Jane E. Norton, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION  
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222 S. 6th Street, Room 232  
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CCDM



Colorado Department  
of Public Health  
and Environment

August 16, 2000

Timothy Rehder  
U.S. Environmental Protection Agency, Region VIII  
999 18<sup>th</sup> Street, Suite 500, EPR-FT  
Denver, CO 80202-2466

Re: CDPHE Comments on Sampling and Analysis Plan for Groundwater Monitoring at the Property Utilization and Disposal Yard, Draft Final, July 2000, Revision 0

Dear Mr. Rehder:

1. Section 1.3.3 - contaminant trends are important to understanding the type and extent of contamination. CDPHE requested this information for several wells that had multiple sampling events. The information obtained from the proposed sampling will be helpful in confirming trends that may show attenuation of the plume.
2. Section 1.3.4 - 1,1 DCE appears to be another characteristic contaminant of the source near IHSS 174A. It appears to be less attenuated than the PCE, TCE, and TCA as it moves along the pathway to the east-northeast. There appears to be some degradation near the source of this plume also as evidenced by a concentration of cis 1,2, DCE. Possibly some oily wastes in the same area provided a carbon source for some limited biodegradation to occur. It would be helpful to the case for natural attenuation to better characterize the sources in this plume, a low concentration and/or degrading source is a much better candidate for MNA.
3. Figures 1-4 - 1-6 - We agree the historic head data indicates the potential flow is into the landfill and the chemical evidence cited would also support that. Why are these concentration contours drawn as though the PCE, TCE, and 1,2 DCE are sourced inside the landfill?
4. Section 2.0 - the footprint and chemistry of the plume originating near IHSS 174A doesn't show much evidence of biodegradation once the plume moves away from the source as would be expected in an aerobic environment. The attenuation mechanisms more likely operable here are dispersion and dilution from recharge. Volatilization is likely along the southern extensions of the plume as the ground water nears the ground surface. The second round of sampling may also need to define the pathway and attenuation from the second source near the landfill wall. Please include us in the location decisions for these wells or sampling locations.
5. Section 3.2 - favorable ground water conditions for defining this plume may not exist this season, it is possible this project should be deferred until the ground water table has been recharged. Newly installed wells will not have contaminant trends, please specify the wells and time frame intended for this decision.
6. Section 4.1.1 - wells 00397 and 22397 appear to monitor the same area or pathway, is there a difference in these two wells that would require monitoring both?
7. Table 4-1 - the rationale for well 30800 is not well explained. Some effort may need to be made to better define the source area here as the historic data showed increasing trends for PCE, TCE, and 1,2 DCE in well 7287 until 1995. The 1,2 DCE may be evidence for biodegradation in this area.

5400

Timothy Rehder  
August 16, 2000  
Page 2 of 2

Should you have questions about our comments please contact Elizabeth Pottorff at 303-692-3429.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven H. Gunderson", with a long horizontal flourish extending to the right.

Steven H. Gunderson  
RFCA Project Coordinator

cc: Gary Kleeman, EPA  
Joseph Legare, DOE  
Norma Castañeda, DOE  
Bob Nininger, KH  
Steve Singer, RMRS  
Tom Greengard, SAIC



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DENVER, COLORADO 80202-2466**

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AUG 27 1997

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Mr. Steve Slaten  
RFCA Project Coordinator  
Department of Energy, Rocky Flats  
P.O. Box 928  
Golden, Colorado 80401

Dear Mr. Slaten:

This is in response to your August 20, 1997, letter in which you requested approval of your proposal to modify the Source Evaluation Plan dated July 17, 1997, to include the more recent surface water exceedances for Plutonium. You proposed that the combined evaluation plan be submitted by September 15, 1997.

Given the fact that DOE and its contractors have already started a characterization effort to determine the cause of the elevated Plutonium levels, EPA approves your proposal to submit the revised evaluation plan on or before September 15, 1997.

Please contact me at (303) 312-6293 if you have any questions on this matter.

Sincerely,

Timothy R. Rehder, Manager  
Rocky Flats Project

cc: Steve Tarlton (CDPHE)  
Kathy Schnoor (Broomfield)  
Mary Harlow (Westminster)

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