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**ROUTING AND TRANSMITTAL SLIP**

Date 4/8/98

| TO: (Name, office symbol, room number, building, Agency/Post) | Initials | Date |
|---|---|---|
| 1. ~~Keith Takata SFD-1~~ | ✓ | |
| 2. ~~John Kemmerer~~ | | |
| 3. Kevin Mayer | | |
| 4. | | |
| 5. Re: Perchlorate | | |

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| | Action | | File | | Note and Return |
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**REMARKS**

Keith, John and Kevin,

Attached is the final package of material that we gave to Felicia on perchlorate for her 4/9/98 visit to Las Vegas concerning the Sunrise Landfill. We aren't anticipating perchlorate questions, but thought Felicia should have this just in case.

Keith and John — Thanks for your quick review of the Qs and As ~~last~~ yesterday afternoon! Sorry that I had to interrupt your meeting!

Please let me know if you have any additional comments on this material. Thanks, Larry

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

| FROM: (Name, org. symbol, Agency/Post) | Room No.—Bldg. |
|---|---|
| Larry Bowerman WST-5 | Phone No. 744-2051 |

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SFUND RECORDS CTR
47022

April 7, 1998

**Potential Perchlorate Questions and Answers**

1. What about the perchlorate problem in Las Vegas Wash and Lake Mead? How serious is this problem?

   We are very concerned about the levels of perchlorate in the Las Vegas Wash and Lake Mead, and accordingly, we are dedicating significant agency resources to address it. Perchlorate has been detected in the 10 - 16 ppb range in Lake Mead. This compares with California's provisional drinking water standard of 18 ppb. About 12 million people drink water from Lake Mead and the Colorado River (Las Vegas area, Southern California, Arizona and several tribes); we are moving quickly to do as much as we can to ensure the safety of this drinking water.

2. What is EPA doing to address the problem?

   Currently our primary focus is on two facilities in the Henderson, Nevada area: the Kerr McGee Chemical Company and the former Pepcon facility. These two facilities appear to be the primary sources of the perchlorate entering the Las Vegas Wash and ultimately Lake Mead. The Nevada Department of Environmental Protection (NDEP) has taken the lead role in requiring these two facilities to investigate and remediate their contributions to this problem. EPA is providing oversight and technical assistance to support NDEP's efforts.

   **If additional information is needed:** The overall goal is to stop or reduce the flow of perchlorate into the Las Vegas Wash as quickly and efficiently as possible. Kerr McGee and Pepcon are currently gathering data to confirm the nature and extent of the perchlorate plume, and to determine how best to remediate it. These investigations should be completed in May 1998. EPA has urged Nevada to have the facilities install and begin operating an initial extraction system by June 1, 1998.

3. What else is EPA doing on a national scale to address the perchlorate problem?

   As you know, this is a relatively new problem; it was only about one year ago that perchlorate began to emerge as a significant problem. There is much that we don't know about perchlorate, but we are moving to address these information gaps as quickly as possible. We have requested assistance from other offices of EPA concerning 1) potential sources of perchlorate, 2) national analytical protocols, 3) increased toxicological information, and 4) investigation of treatment technologies. We have also been working with other EPA Regions and states to increase awareness of perchlorate as an emerging problem. Finally, the newly formed Interagency Perchlorate Steering Committee (IPSC) is sponsoring a National Perchlorate Conference in Henderson, Nevada from May 19-21, 1998 to promote the exchange of the latest technical and regulatory information.

# PERCHLORATE UPDATE BY EPA REGION 9

I. **What is perchlorate?**
- -- Ammonium and potassium perchlorate.
- -- Solid rocket fuel/explosive.
- -- Inorganic salt; very soluble, very mobile in ground water, very stable in the environment.

II. **Why is it suddenly an issue?**
- -- New test method: detection limit decreased from 400 ppb to 4 ppb in early 1997.
- -- Found in Los Angeles and Las Vegas drinking water and in several drinking water wells in California at concentrations in the 100-200ppb range and as high as 280ppb.
- -- Detected in Colorado River at low levels (5-9ppb) which potentially affects water supply of 1 million+ in NV, 1 million+ in AZ, 10 million+ in CA and Native American tribes in those states.

III. **Health Concerns**
- -- Thyroid inhibitor; formerly used as treatment for Graves disease (hyperthyroidism).
- -- Not believed to be a carcinogen.
- -- Not much data on potential chronic effects, or potential effects on sensitive subpopulations ( infants, chronically ill, etc).
- -- EPA provisional reference dose (4-18 ppb); California provisional drinking water Standard (18ppb).

IV. **Drinking Water Issues**
- -- Found in Lake Mead from 10-16 ppb (Las Vegas drinking water source)
- -- NDEP reports approx. 1000 ppb perchlorate entering Lake Mead from LV wash.
- -- Drinking water wells: found in about 70 wells (measurable amounts); 23 wells at levels greater than 18 ppb; several wells have been shut down.
- -- California is requiring regular perchlorate monitoring by drinking water suppliers.

V. **Where is perchlorate coming from?**
- -- Primarily DOD and NASA facilities and contractors.
- -- Probable largest sources in Region 9: Kerr McGee and Pepcon at the BMI Complex in Henderson, NV.
- -- Superfund also looking at Aerojet (2), NASA JPL, Lockeed-Redlands and others
- -- RCRA looking at UTC, Rocketdyne SSFL, Whittaker-Bermite and others
- -- Other EPA regions in the process of identifying sources of perchlorate.

VI. **EPA Region 9 Activities**
- -- Superfund: R9 lead, investigating several sites (including Pepcon), 9/23/97 memo to EPA-HQ.
- -- RCRA: Looking at 4 sites (including Kerr McGee), for now (investigation, source control).

-- Drinking Water: notification, guidance and sampling.
-- Activities and Issues: Coordination, information exchange, notification, testing, investigation, health effects, treatment options and source control.
-- Perchlorate conference- Interagency Perchlorate Steering Committee (IPSC) is sponsoring a national conference in Henderson, NV May 19-21. Will focus on exchange of most current scientific data and regulatory information.

VII. **Nevada DEP Activities**

-- Others have sampled for perchlorate in Lake Mead and Las Vegas Wash; results confirm that principal sources are located in the vicinity of BMI Complex.
-- Ground water has been sampled across the BMI Complex. Found as high as 37,000 ppm (Phase I investigation) at Kerr McGee.
-- Phase II investigation included more extensive gw sampling conducted by Kerr McGee. Report reviewed by NDEP and EPA R9.
-- Phase III investigation underway being conducted by Kerr McGee and Pepcon and overseen by NDEP. Additional specific hydrogeologic characterizations to be conducted. Goal is for investigation to be completed in May 1998; Initial remediation efforts to begin by June 1, 1998.
-- Facilities are cooperative to date.

VIII. **September 23, 1997 Felicia Marcus Memo**

-- Requesting assistance from EPA-HQ.
  * Identify potential areas of perchlorate contamination nationwide.
  * Develop national analytical protocols.
  * Increase toxicological information on perchlorate and expedite its evaluation.
  * Address technological and regulatory solutions to perchlorate in public drinking water supplies.

IX. **Likely Next Steps**

-- Interagency Perchlorate Steering Committee (IPSC) formed January 1998.
-- "Spread the word" to Regional offices and states.
-- Investigate additional sources of perchlorate.
-- Develop source control measures where needed (Kerr McGee and Pepcon at least)
-- Investigate treatment options and develop new treatment technologies for drinking water and source control.
-- Continue to work on the toxicology of perchlorate (EPA research laboratories)
  * National Center for Environmental Assessment (NCEA) of EPA is due to issue a new health assessment in order to revise the provisional RFD by October 1998.

X. **Potential Enforcement Authorities**

-- 7003: Imminent and Substantial Endangerment
  * Can issue Administrative Order or initiate a Judicial action in U.S. District Court
  * Can require assessment, interim measures, stabilization, long term clean-up work, controls on future operations, environmental restoration and cost recovery.

* Similar to Section 106(a) of CERCLA.

-- 3008(h): RCRA enforcement authority for TSDF facilities under Interim Status. Also addresses contaminant investigation, characterization and corrective action/cleanup.

-- Nevada DEP could take its own enforcement actions

* Develop Consent Agreement for perchlorate between both companies and NDEP.
* Modify a Consent Agreement already in effect which addresses chromium contamination at Kerr McGee.

## XI. EPA, Region 9 Contacts

-- Superfund: Kevin Mayer (415) 744-2248

-- RCRA: Mitch Kaplan (415) 744-2063

-- Drinking Water: Bill Thurston (415) 744-1851