From: Ellie Townsend-Hough
To: Eric Solorio
CC: Paul Marshall
Date: 6/9/2009 3:58 PM
Subject: Fwd: DTSC letter
Attachments: DTSC letter

DOCKET
08-AFC-2
DATE 06/09/09
RECD. 06/11/09

Hi Eric,

This email is in response to the April 30, 2009 comments from CURE (page 55 & 56). CURE's comments challenged the fact that the Beacon Solar Project owners could use the same non-hazardous waste designation for the Heat Transfer Fluid (HTF) as was used on Kramer Junction (SEGS III - VII) Solar project. The applicant provided a April 4, 1995 letter written by DTSC (Letter) which classified HTF contaminated soil as non-hazardous. The project owner proposed that the letter could be transferred to the proposed Beacon Power project and that HTF would be classified as non-hazardous. Both SEGS project and the Beacon project use the same technology, the same HTF (Therminol), and are located in the same county.

I contacted both Kern County's Environmental Health Services Department and the Department of Toxic Substances Control (DTSC) to see if the letter applied to the proposed Beacon project also. I spoke with Joe Canas, Kern County Environmental Services, joec@co.kern.ca.us. I also asked the same question of Charles Corcoran, DTSC Office of Policy, ccorcora@dtsc.ca.gov. Attached to this email is the written response from Charles. Charles provided a regulatory interpretation that the waste determination in the April 4, 1995 letter was for waste generated by the Kramer Junction (SEGS III -VII) facility only. It cannot be extrapolated to wastes generated in the future at another, separate facility. Each waste generator facility must make a determination for the waste they generate. The April 4, 1995 letter is not a general Therminol contaminated soil waste stream determination.

CCR Title 22 66260.200 (f)
CCR Title 22 66262.11

Ellie Townsend-Hough
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From: "Charles Corcoran" <CCorcora@dtsc.ca.gov>
To: "Ellie Townsend-Hough" <Etownsen@energy.state.ca.us>
Date: 6/8/2009 10:55 AM
Subject: DTSC letter
Attachments: Scanned image from AR-M550U

Attached is the complete letter.

This determination applies to waste contaminated soil that was generated (I.e., excavated and stockpiled or transported offsite) and sampled at some point in time prior to the April 4, 1995 date (and presumably, prior to the Mar 02, 1994 application date). The population from which the samples were taken is somewhat ambiguous in the letters, but it is safe to presume that this population of hazardous soli (I.e., this waste) is not an issue at that site today.

Under the hazardous waste regulations generators and DTSC performs hazardous waste determinations for discrete "wastes" in order to determine if those wastes are hazardous wastes. While the regulations do not set forth either minimum or maximum population volumes (or quantities) that one must abide by when classifying a given waste, it is clear from the laws and regulations that "wastes" and "wastestreams" are two different concepts that are not interchangeable*. There is not a provision of law that allows anyone (DTSC or a generator) to classify a "wasteastream"**. The hazardous waste determination must always be made for a distinct waste; I.e., for a known and defined quantity (or volume)of the waste material being characterized. Any notion that a DTSC determination (such as that presented in the April 4, 1995 letter) applies prospectively to wastes that have yet to be produced is erroneous. The determination in the letter applies only to the distinct waste population from which the representative samples were taken. Generators, may repeat the procedure used by DTSC to classify its future wastes, or it may use the previous DTSC determination as "generator knowledge" to classify those future wastes. [22 CCR 66262.11]

There is no requirement for generators to obtain DTSC determination such as this one.

I hope this information is helpful.

Charles

* Words are presumed to be used consistently. If the a different word is used, the meaning changes.
** An exception to this statement exists for wastestreams that are classified by DTSC as special wastes. [22 CCR 66261.126]

Charles Corcoran
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STATE OF CALIFORNIA - ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
400 P Street, 4th Floor
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April 4, 1995

Mr. David M. Rib, Manager of Regulatory Affairs
KJC Operating Company
41100 Highway 395
Boron, CA 93516

Re: REQUEST FOR RECLASSIFICATION OF THERMINOL CONTAMINATED SOIL AS NONHAZARDOUS PURSUANT TO SECTION 66260.200(f), TITLE 22, CALIFORNIA CODE OF REGULATIONS (22 CCR) - WASTE EVALUATION UNIT FILE #F143 (WEU FILE #F143)

Dear Mr. Rib:

The Office of Scientific Affairs, Department of Toxic Substances Control (Department) has completed its review of the information submitted to the Department by you on behalf of the KJC Operating Company. The information was submitted in support of a petition to reclassify soil contaminated with a heat transfer fluid (HTF) known as Therminol as nonhazardous pursuant to 22 CCR section 66260.200(f). Based on our review of all the analytical data and information submitted, the Department finds that the Therminol-contaminated soil possesses mitigating physical and chemical characteristics which render it insignificant as a hazard to human health and safety, livestock, and wildlife. The Department, therefore, classifies the Therminol-contaminated soil as nonhazardous.

Background

The KJC Operating Company (KJC) facility, located in Boron, California, encompasses approximately 160 acres where a series of parabolic mirror troughs called Solar Collecting Assemblies (SCAs) are configured into multiple rows to form a solar field. The HTF, a synthetic material whose composition is a mixture of 26.5% biphenyl and 73.5% diphenyl oxide, is circulated through heat collection elements positioned at the focal point of each of the SCAs. The HTF is heated to between 650 and 735 degrees fahrenheit and, through a series of heat exchangers, generates steam for power production.

Occasional accidental or incidental spills or leaks of HTF result in contamination of the soils beneath the point of leakage. When these occur, the HTF-contaminated soils are excavated and transported to a central storage area. Historically, these HTF-contaminated soils were typically disposed of off-site into a Class I waste landfill. However, alternative treatment technologies have been explored for the management of this waste, the most recent being an on-site bioremediation facility. An estimated 500 cubic yards of HTF-contaminated sandy soil is generated per year. The average concentration of HTF in these contaminated soils ranges between 3,000 and 10,000 ppm.

Analytical Testing

M & M Environmental/Safety Services of Victorville, California, conducted the soil sampling for KJC. Four one-liter composite samples (each composite sample was made up of 8 separate random samples) of the HTF-contaminated soil were collected from a known spill. Two of the four composite samples consisted of samples taken from the center of the spill (referred to as "wet" or heavy concentration samples). The remaining two composite samples consisted of samples which were taken from the edge of the spill (referred to as "dry" or lesser concentration samples). These four composite samples were analyzed for their concentrations of HTF for purposes of toxicity testing.

The four composite samples were then shipped to Aquatic Testing Laboratories (ATL) to perform definitive aquatic bioassays. At ATL, the wet and dry composite samples were mixed in ratios of 6, 7, 8, and 10% of the wet composite sample (the balance made up from the dry sample) to yield concentrations of HTF for aquatic bioassay testing. Based on the results of these aquatic bioassays, it was determined that an HTF concentration in soil of approximately 11,500 ppm is the LC_{50} concentration threshold at which the HTF contaminated soil would exhibit the characteristic of toxicity as measured by the aquatic bioassay. Since the average concentration of HTF in the contaminated soils range between 3,000 and 10,000 ppm, the waste would not be considered hazardous as measured by the aquatic bioassay pursuant to 22 CCR section 66261.24(a)(6).

As measured by the Toxicity Characteristic Leaching Procedure (TCLP) pursuant to 22 CCR section 66261.24(a)(1), the waste does not exhibit the Toxicity Characteristic (TC).

The waste does not contain any soluble inorganic constituent in excess of its California STLC as measured by the WET pursuant to 22 CCR section 66261.24(a)(2)(A).

The characteristics of corrosivity and reactivity were not expected to be exhibited by this waste and were, therefore, not addressed in this classification application.

Discussion

Based on its calculated 8-hour inhalation LC_{50} of 192 ppm compared to the criterion of 10,000 ppm, HTF was initially classified as hazardous. California regulations (22 CCR section 66261.24(b)) allow the applicant to use the head space vapor test to show that the vapor pressure is sufficiently low to mitigate the inhalation hazard. The protocol for the head space vapor test calls for the test to be conducted at 90°C. It was the Department's judgement that the test did not give satisfactory results at that temperature. In contrast to a concurrence, in which the Department would be concurring with your nonhazardous classification according to the standard tests and methods, a reclassification allows the Department some flexibility. Section 66260.200(f) does not contain any specific test methods to prove that a waste possesses intrinsic mitigating characteristics. This determination of whether a waste possesses such a characteristic is left to the Department's staff. In general, any proposed tests to show mitigating properties must be linked to the hazardous characteristic which the waste exhibits i.e. inhalation toxicity in this case. In this case, a modified head space vapor test was conducted at 50°C, and, as expected, the results demonstrate that the vapor pressure of the Therminol is much less at that temperature, and that the mixture of Therminol and soil is still lower, much less than the LC_{50}. Therefore it is the

Department's position that the test results demonstrate that the mitigating property is the much lower vapor pressure at the maximum ambient temperature, which will result in greatly reduced inhalation exposure than the theoretical value. Therefore, the Department grants your request for reclassification of the spilled Therminol as nonhazardous based on the information you previously submitted.

Conclusion

Based on the review of the analytical data and information provided, the Department finds that the HTF contaminated soils poses an insignificant hazard and classifies the waste as nonhazardous pursuant to 22 CCR section 66260.200(f). The Department's formal decision as outlined in this letter is contingent on the accuracy and representativeness of the analytical data and information provided to the Department for review. Furthermore, the nonhazardous classification granted in this letter is not to be construed as an approval by the Department to leave the HTF-contaminated soil on the site or for any other uses. Waste classification determines whether a waste must be managed and disposed of as a hazardous waste in accordance with Chapter 6.5, Division 20, of the California Health and Safety Code.

Irrespective of the Department's classification decision outlined in this letter, the management and disposal of the HTF-contaminated soils are subject to the requirements of the respective Regional Water Quality Control Board and other state, federal, or local agencies who have regulatory jurisdiction in this matter. It is the Department's understanding that the California Energy Commission, Energy Facilities Siting and Environmental Protection Division will also be providing direct oversight to insure that the HTF-contaminated soils will be managed and disposed of properly.

Should you have any questions regarding this classification letter, you may contact me at the letterhead address and telephone number. Classification of heat transfer fluid, ref: your letter of February 14, 1995.

Sincerely,

James C. Carlisle

James C. Carlisle, DVM, MSc
Waste Evaluation Unit
Office of Scientific Affairs

cc: Jeffrey J. Wong, PhD
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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the *BEACON SOLAR ENERGY PROJECT*

Docket No. 08-AFC-2

PROOF OF SERVICE
(Revised 4/28/09)

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DECLARATION OF SERVICE

I, Maria Santourdjian, declare that on June 11, 2009, I served and filed copies of the attached Staff Dialogue with DTSC Regarding HTF. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[www.energy.ca.gov/sitingcases/beacon]. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

__x__ sent electronically to all email addresses on the Proof of Service list;

__x__ by personal delivery or by depositing in the United States mail at _____ with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__x__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. _____
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signature in Dockets
Maria Santourdjian