STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

PETE WILSON, Governor

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
P.O. BOX 942732
SACRAMENTO, CA 94234-7320
(916) 322-3670

May 15, 1991

Mr. Jerry F. Sullivan
Principal Mechanical Engineer
City of Pasadena
100 North Garfield Avenue
P.O. Box 7115
Pasadena, CA 91109-7215

Dear Mr. Sullivan:

CLASSIFICATION AND DISPOSAL OF TREATED WOOD

Thank you for your letter submitted on behalf of the City of Pasadena (Pasadena) dated April 15, 1991, to the Department of Health Services (Department), Toxic Substances Control Program concerning the proper classification and disposal of chemically treated wood which will be generated from the future demolition of cooling towers located in Pasadena. These three cooling towers (referred to in your letter as Units G-9, B-1, and B-2) are used as auxiliary equipment in Pasadena's steam power plants and are contaminated with heavy metals from the use of chemically treated lumber to replace damaged and rotten tower components. You wished to confirm your understanding that based on the laboratory analysis performed on representative samples of the cooling towers, and applicable hazardous waste regulations, that the cooling towers may be disposed in one of the following ways (paraphrased here):

1) As a non-RCRA hazardous waste disposed in a Class I (hazardous waste) landfill;

2) As a non-RCRA hazardous waste disposed out of state at a municipal or nonhazardous waste landfill, or;

3) Segregating and classifying portions of each cooling tower, those portions of the cooling towers which exceed the Total Threshold Limit Concentration (TTLC) are classified as non-RCRA hazardous waste and disposed of at a Class I landfill, while those portions which do not exceed the TTLC may be classified as nonhazardous waste and disposed of at a Class III landfill in California.

Included with your letter were results from laboratory analyses which were performed on samples collected from the three cooling towers.

It is the generator's responsibility to properly classify the waste(s) produced. A generator may apply knowledge of the hazardous characteristics of the waste stream or test the generated waste to determine whether the waste is regulated as a hazardous waste in light of the criteria. In this particular case, you must first decide whether the treated wood exhibits the federal Toxicity Characteristic (TC) as measured by the Toxicity Characteristic Leaching Procedure (TCLP) pursuant to Section 261.24, Title 40, Code of Federal Regulations (40 CFR 261.24). This section of federal regulations contains a list of inorganic and organic constituents which are regulated under the TC. If your waste contains an inorganic or organic constituent whose soluble concentration is greater than or equal to the listed regulatory threshold pursuant to 40 CFR 261.24, the waste is a federally regulated characteristic hazardous waste under the Resource Conservation and Recovery Act (RCRA). This RCRA characteristic hazardous waste is automatically considered a hazardous waste in California since the federal regulations supersede California's hazardous waste regulations.

If the waste does not exhibit the TC under 40 CFR 261.24, then the waste must be evaluated by applying the criteria under Article 11, Title 22, California Code of Regulations (22 CCR). The criteria includes the characteristics of toxicity (acute and chronic), ignitability, reactivity, and corrosivity. A generator need only address the applicable criteria which is likely to be exhibited by his waste. Pursuant to Section 66694, 22 CCR, sampling and sample management of a waste must be in accordance with those procedures specified in Section One of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", 2nd edition, U.S. Environmental Protection Agency (SW-846). This includes subjecting no less than four representative samples of the waste to analytical testing for hazardous characteristics. Pursuant to Section 25198 of the California Health and Safety Code, all analytical testing must be performed by a laboratory certified by the Department to perform hazardous waste testing.

In this particular case, Pasadena should closely examine the following characteristics:

- Acute toxicity as measured by the acute aquatic bioassay pursuant to Section 66696(a)(4), 22 CCR, and;

- Chronic toxicity for both total and soluble concentrations of inorganic/organic Persistent and Bioaccumulative Toxic Substances pursuant to Sections 66699(b) and (c), 22 CCR.

If the treated wood waste fails the aquatic bioassay or contains an inorganic/organic Persistent and Bioaccumulative Toxic Substance at a total or soluble concentration (as measured by the Waste Extraction Test [WET]) equal to or greater than its respective TTLC or STLC, the waste is regulated as a hazardous waste in California and must be managed as such. The fact that the total concentration of an inorganic/organic constituent in a waste is less than its respective TTLC does not necessarily classify a waste as nonhazardous (as mentioned in your letter to the Department). California's hazardous waste regulations address both total and soluble concentrations of inorganic/organic constituents as previously mentioned.

The Department performed a cursory review of the analytical data submitted with your letter. A suggestion which may assist you in properly evaluating your data for classification purposes would be to perform statistical analysis on the data (e.g. mean, 80 percent upper confidence level, etc.) in accordance with SW-846. You should base your classification decision (assuming the correct number of representative samples are collected) on whether the calculated 80 percent upper confidence level (UCL) exceeds the regulatory threshold of the inorganic/organic constituent of concern. If the calculated 80 percent UCL is equal to or exceeds the regulatory threshold of the constituent of concern, then the waste is classified as hazardous and must be managed appropriately.

Based on the information above, the following options are available to Pasadena:

(1) Based on the knowledge of the contaminated wood waste generated and/or results of the analytical testing, Pasadena may self-classify their waste pursuant to Section 66305(b), 22 CCR, and manage the waste accordingly. Notification to the Department is not necessary.

(2) Assuming that the waste is a non-RCRA hazardous waste, Pasadena may apply for a variance from the provisions of Chapter 30 pursuant to Section 25143, Health & Safety Code and Section 66310, 22 CCR (see enclosed). You should contact the Department's Region 3/Burbank office at (818) 567-3000 for information regarding a variance should you decide to pursue that option.

(3) If you wish the Department to review your analytical data and classify the wood waste pursuant to Section 66305(c), 22 CCR, you would be required to submit an application containing all the appropriate analytical data, background information, and fee (a fee of $7,897 per waste stream is assessed by the Board of Equalization) to the Department. However, if you choose

to obtain a concurrence from the Department, the waste must be managed as hazardous waste until the Department renders its decision.

The management and disposal of any hazardous or nonhazardous waste in California is subject to the requirements of the California regional water quality control boards (RWQCB). You should contact the RWQCB/Los Angeles Region 4 office at (213) 620-4460 to discuss your options in the management and disposal of your treated wood waste. If your waste is hazardous, and you wish technical assistance regarding treatment standards and the interpretation of those regulations, please contact Mr. Watson Gin of the Treatment Standards Unit in Sacramento at (916) 324-1807. Disposal of a non-RCRA hazardous waste outside of California would depend on the government agency responsible for the hazardous waste control laws of the state in which you plan to dispose the waste.

Should you have additional questions regarding this letter, you may contact Mr. Ronald Pilorin of my staff or me at the above letterhead address or telephone number.

Sincerely,

Greg Williams
Alternative Technology Division
Toxic Substances Control Program

Enclosures

cc: Mr. Ronald Pilorin
Alternative Technology Division
Toxic Substances Control Program
Department of Health Services
P.O. Box 942732
Sacramento, CA 94234-7320

Mr. Don Johnson
Program and Administrative Support Division
Toxic Substances Control Program
Department of Health Services
P.O. Box 942732
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Mr. Dennis Dickerson, Regional Administrator
Region 3/Burbank
Toxic Substances Control Program
Department of Health Services
1405 North San Fernando Boulevard
Burbank, CA 91504

Mr. Robert Ghirelli, Executive Officer
Regional Water Quality Control Board
Los Angeles, Region 4
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Mr. Watson Gin
Alternative Technology Division
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P.O. Box 942732
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City of Pasadena

100 NORTH GARFIELD AVENUE
P.O. BOX 7115, PASADENA, CA 91109-7215

WATER AND POWER DEPARTMENT
POWER PLANT/DISPATCH CENTER
45 EAST GLENARM AVENUE
PASADENA, CALIFORNIA 91105-3418

April 15, 1991

California Department of Health Services
Toxic Substances Control Division
714 P Street, Room 1253
Sacramento, CA 95814

Dear Sir/Madam:

The purpose of this letter is to confirm our understanding about the proper waste classification and disposal procedure for our three cooling towers (Unit G-9, B-1 and B-2 Cooling Towers) located in Pasadena, California. These cooling towers are used as auxiliary equipment in the City's steam power plants to provide cooling water to the steam cycle. The City's schedule for demolishing and disposing of these cooling towers are as follows:

Unit G-9 and B-1 Cooling Tower - November 1991
Unit B-2 Cooling Tower - October 1992

The three cooling towers are of rectangular construction made predominantly of wood (90% by weight) and consist of mechanical equipment (e.g. fan, gear reducers, electric motors, and pipes) and metal connectors (e.g. bolts, nails, o-rings, clamps, etc.). Each tower is supported by a concrete basin so ground contamination will not pose a problem during demolition. Our typical tower has the following dimensions and weight - Length = 160 feet, Width = 60 feet, Height = 65 feet, Weight = 500 tons approximately.

Chemical wood preservative treatment of the lumber that was used to replace damaged and rotten tower components has caused heavy metal contamination of certain portions of the tower. To characterize the cooling tower waste for disposal, a true random sampling plan was established for each tower. Samples were collected and analyzed for total metals (TTLC, STLC) and TCLP. Attachment 1 and Attachments 2, 3 & 4 show the analysis report summary and each tower analysis report respectively.

Based on the analysis reports and current/applicable toxic regulations, it is our understanding that each cooling tower can be classified and disposed of in any of the following ways:

1. Treating each tower as a whole (Unit B-1, G-9 and B-2), the waste is classified as ***Non-RCRA Hazardous Waste*** and should be disposed of as a hazardous waste in a Class I or hazardous waste landfill in ***California without any treatment within the above specified schedule.***

2. Treating each tower as a whole (Unit B-1, G-9 and B-2), the waste is classified as a ***Non-RCRA Hazardous Waste*** but can be disposed of as a non-hazardous waste in a ***municipal or non-hazardous waste landfill outside the state of California***.

3. Treating each portion of the tower separately, portions of cooling tower that ***fails TTLC can be classified as Non-RCRA Hazardous Waste*** and should be disposed of to a Class I landfill in ***California without any treatment within the above specified schedule***. The portions of the tower that ***pass the TTLC can be classified as non-hazardous*** and could be disposed of to a ***Class III landfill in California***.

Even though one of the Unit G-9 sample fails TCLP test for Arsenic, the waste could still be disposed of without any treatment under EPA's Land Disposal Restrictions. EPA granted a two-year national capacity extension (May 8, 1992) due to lack of sufficient treatment or recovery capacity for arsenic contaminated waste. Since the City will be demolishing and disposing of the tower before the extension date, the waste could still be classified as Non-RCRA Hazardous Waste and is not subjected to any treatment standards.

Please confirm whether the above waste classification and disposal methods are in compliance with all valid and applicable statutes, rules, and regulations of the federal, state, and local governments. We would also appreciate if you will recommend additional guidelines for us to accomplish the work in a safe, economical, and legal manner.

Your response before May 14, 1991 would be greatly appreciated. Should you need further clarification please call Dan Angeles at (818) 799-7439.

Sincerely,

Jerry F. Sullivan
Principal Mechanical Engineer

DBA/cap

Enclosure