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ENVIRONMENTAL RELEASES FROM WOOD PRESERVING PLANTS

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RE: CJ1305

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Dear Dr. Tseng:

Current U.S. EPA regulations control environmental releases from wood preserving and surface protection facilities under several Congressional statutes, including the Resource Conservation and Recovery Act (RCRA), and the Clean Water Act (CWA). In addition, exposures of workers and consumers to the preservative formulations during application and usage of the treated wood is controlled by the Toxic Substances Control Act (TSCA). The current applicability of the authorities to environmental releases is summarized below, along with a description of our present investigations under RCRA.

Wastewater Effluents under the CWA

Process wastewaters effluent discharges from wood preserving facilities which use arsenical/chromates, creosote, and/or pentachlorophenol are regulated under the Clean Water Act (CWA). The final regulations were promulgated in 1981 (46 FR 8260-8295) and vary according to whether a facility was in existence at the time of the regulation (pretreatment standards for existing sources, PSES) or for new plants (new source performance standards, NSPS).

The release of pentachlorophenol and creosote in wood preserving wastewaters is controlled by the use of the indicator pollutant, oil and grease. The effluent standard for arsenic, chromium, and copper is based on specific concentration limits. No discharge of any wastewaters is mandated for Boulton processes and non-pressure processes.

Process wastewaters for the wood preserving subcategory of

timber products is defined as all wastewater sources excepting noncontact cooling water, material storage yard runoff (either raw material or processed wood storage) and boiler blowdown (46 FR 8287 col. 2, _ 4). However, precipitation falling in the 1/4 to 1/2 acre around the treating cylinders and tank areas is defined as a process wastewater which must be collected and treated. Guidance may be found in the Development Document for Effluent Limitations and Guidelines and Standards for the Timber Products

Point Source Category (EPA Publication No. EPA-440/1-81/023, p. 82), which states:

"Rainwater that falls on or in the immediate vicinity of the retorts and work tank area--an area of from about on-quarter to one-half of an acre for the average plant--becomes contaminated and can present a treatment and disposal problem at any plant, but e specially at plants in areas of high rainfall. For example, a plant located in an area that recieves 152 cm (60 in) of rain annually must be equipped to process an additional 1.5 to 3.0 million liters (400,000 to 800,000 gallons) per year of contaminated water."

Current Dioxin/Furan Chlorophenolic Regulations under RCRA

Certain associated wastes from oil or water based chlorophenolic formulations used by wood preserving or surface protection facilities (either at sawmills or at wood treaters before air seasoning) may be subject to regulation as acutely hazardous wastes because of their contamination with polychlorinated dioxins and furans under the Resource Conservation and Recovery Act (RCRA). The hazardous waste listings which may apply are found in Part 261.31, Volume 40 of the Code of Federal Regulations as Hazardous Waste Nos. F020, F021, F026 or F027.

If a facility mixes chlorophenolic formulations on-site, then it may be covered by either the F020 (tri- or tetrachlorophenol) or F021 (pentachlorophenol) listing if wastes are generated during the process. An example would be filtering the unused formulation before storage, thus generating a filter residual.

If a facility discards an unused (not spent) formulation containing chlorophenolics the associated wastes and formulation itself are covered by Hazardous Waste No. F027.

If a waste is generated from the use of equipment (tanks, etc.) that previously was used to mix chlorophenolic formulations, then these wastes would be covered by Hazardous Waste No. F026. An example would be mixing t-butyl tin oxide in the same tank that was used for chlorophenolics previously, and generating a filter waste when the TBO formulation was transferred to the process or storage tank.

A container or an inner liner removed from a container that has held an acute hazardous waste such as F020, F021, or F027 must be either "triple rinsed" with an appropriate solvent or cleaned by another established scientific method or the inner liner must be removed and discarded (as a hazardous waste). Otherwise, this container itself is considered to be the hazardous waste itself, either F020 or F021. This regulation may be found in the Code of Federal Regulations, Vol. 40, Part 261.7(a)(3). Examples would be a storage tank taken out of service that previously contained unused formulation, a formulation mixing tank, or empty chlorophenolic drums or kraft bags.

When a waste is listed as "Acutely Hazardous" under Part 261.31 (Hazard Code "(H)"), then special management standards apply under RCRA over those normally imposed for other hazardous wastes. For example, under Part 261.5(a), generators of less than 1000 kilograms of hazardous waste a month would normally be exempt from the management standards contained in Parts 262-265 and Parts 270 and 124 (surface impoundment specifications, ground water monitoring, hazardous waste manifesting, etc.). Part 261.5(e) instead states that the generation of 1 kilogram of acutely waste generated a month or a total of 100 kilograms of contaminated soils subjects the generator to the full management standards of Parts 262-265, 270, and 124.

(As described below, we are currently investigating the addition of other wood preserving wastes to the acutely hazardous waste categories because of their contamination with polychlorinated dioxins and furans.)

Wastewater Treatment Sludges from Creosote and Pentachlorophenol under RCRA

At the present time, wastewater treatment sludges from wood preserving processes which use creosote and/or pentachlorophenol are regulated as Hazardous Waste No. K001 under Part 261.31. This includes oil/water separator sludges, the sludges which form at the bottom of surface impoundments used to treat or dispose of wastewater (percolation or evaporation ponds), filter media (carbon, sand, soil), spray irrigation fields (considered land treatment units), sludge dewatering/drying beds, etc.

There has been a lot of activity over the past years in "closing" unlined lagoons, ponds, etc. used for process wastewaters. The issue of "how clean is clean" for removing the sludges and contaminated subsoils (much less pumping and treating contaminated ground water) is decided on a case by case basis. The criteria to be used for closure of waste management units such as surface impoundments, land treatment units, waste piles are given in Parts 265 and 267.

If all contaminated materials cannot be removed, then post closure care as specified under Part 265.310 is required. This would include maintaining a cover for the unit, leachate collection, etc.

The RCRA management standards would not apply to wastewater treatment sludges (or wastewaters if they are listed as hazardous wastes in the future) while they are managed on-site in tanks which meet certain design requirements (Part 264.1(g)(6) and Part 265.1(c)(10)). However, as soon as the sludges are removed from these units, the full RCRA permitting requirements apply. Many facilities have therefore chosen to install wastewater treatment trains in structures that meet our tank specifications, rather than surface impoundments, to avoid ground water monitoring and other RCRA permitting requirements.

Creosote or Pentachlorophenol Wastewaters under RCRA

In 1980, we proposed to add wastewaters themselves from creosote and/or pentachlorophenol facilities to the list of hazardous wastes under Part 261.31 (45 FR 33137). In 1984, we started obtaining the necessary analytical data by site sampling missions to support this proposed hazardous waste listing. We have been obtaining analyses of the wastewaters themselves as well as documenting ground and surface water contamination with polynuclear aromatic hydrocarbons (PAHs), chlorophenols, and polychlorinated dioxins/furans.

Since wastewaters are typically managed in the same units that manage the currently regulated wastewater treatment sludges (Hazardous Waste No. K001), few additional controls of wastewater units under RCRA would occur. However, if wastewaters were listed, we would have the authority of controlling such waste management practices as their "treatment" by evaporation in the treating cylinder or the plant boiler.

Any RCRA authority over wastewaters would be limited to their management on-site at a facility (Part 261.4(a)(2)[Comment]). When released to the navigable waterways or sent to a publically owned treatment work (POTW), the statutory authority becomes the Clean Water Act (CWA). This means that it is possible to have different toxic substances of concern or "action levels" for a wastewater while it is managed on-site under RCRA than after release off-site under the CWA. For example, under RCRA we may be considering wastewater contamination with polychlorinated dioxins and furans, yet the CWA standards currently only consider the indicator pollutant oil and grease.

Inorganic Arsenical and Chromate Wastes (Wastewaters, Sludges, Contaminated Soils) under RCRA

At the current time, any wastes generated by a wood preserving facility that fails the "Extraction Procedure Toxicity Test" (EP Toxic) is a regulated waste. This test procedure (described in Appendix II of Part 261) involves extracting the waste with 20 times its weight with water, adjusted to a pH of 5 with acetic acid. The extract is analyzed, thus yielding the "EP Toxicity" value. If the sample is an aqueous liquid, then the sample itself is analyzed, giving the "EP Toxicity".

The maximum allowable concentration for metallics in the "EP" extract is compared to the values given in Table 1 of Part 261.24. If either the total arsenic or chromium in the "EP" extract exceeds 5.0 parts per million, then the waste is classified as either EPA Hazardous No. D004 or D007, respectively.

Thus many inorganic salt wood preserving wastes are controlled by the RCRA management standards of Parts 262-265, 270, and 124. This would include contaminated soils in the treated wood drippage area, process wastewaters, sludges, spilled formulations, etc.

We are currently investigating whether or not to specifically list inorganic salt wood preserving wastes under Part 261.32. This would give the Agency the additional advantage of oversight

of treatment of all the wastes generated through its delisting process under Part 260.22. Currently, for "EP Toxic" wastes, the facility has the ability to determine on its own whether or not a waste is hazardous and whether or not treatment is adequate.

Corrective Action under RCRA

As the result of the Hazardous and Solid Waste Amendments of 1984 (HSWA) (Congressional Records of Oct. 3 and 11, 1984), the authority of RCRA has been extended to other solid waste management units (SMUs) at facilities, even if these units do not manage a waste that is listed in Part 261. This is the corrective action requirement for continuing releases at permitted facilities under Section 3004(u) and (v) of HSWA.

This requirement for permitting all solid waste management units applies only to facilities that current have hazardous waste management units subject to the permitting standards of RCRA.

Since few facilities, if any, have final permits, any plants with surface impoundments managing K001 wastewater treatment sludges must also obtain a permit for the treated wood drippage/storage area, process areas, and any landfills.

If there is any contamination in these areas (release) corrective action must be undertaken. A release from a solid waste management unit is defined in terms of whether or not the unit is designed for adequate containment. For example, treated wood drippage (currently a "solid waste" but not a "listed hazardous waste") is typically managed by land disposal (drillage to the ground). This ground usually does not have a clay liner, runoff containment, etc. Therefore, disposing of this drippage on the open ground constitutes a release for the purposes of corrective action. Leakage from a tank would also be a release.

Current Efforts under RCRA to List Additional Wastes

At the present time, our branch is involved in investigating whether or not to add additional wastes from wood preserving and surface protection facilities to the list of hazardous wastes under Parts 261.31 and 261.32. New wastes which are being considered are listed below, and apply to either wood preservation or surface protection facilities and to any of the preservative formulation types, whether creosote, chlorophenolics, or arsenical-chromates:

- _Storage tank, treating tank, retort, dip tank, spray booth sludges
- _Treated wood drippage/storage residuals
- _Fugitive emissions, drippage in the process and tank area
- _Maintenance area, shop area wastes
- _Wastewaters (including storm water runoff)
- _Wastewater treatment sludges from arsenical-chromate processes or chlorophenolics from surface protection processes

All of these wastes, where applicable, are being studied to determine whether or not they should be listed as acutely hazardous waste because of contamination with polychlorinated dioxins and furans. This includes any wastes that can be cross contaminated

with chlorophenolics, such as wastes generated from a creosote process where a common oil/water separator is used for both creosote and pentachlorophenol, sludges from an arsenical process that uses pentachlorophenol make-up water, wastes from a non-chlorophenolic dip tank that previously held chlorophenolics, etc.

As described in previous sections, all of these wastes are covered under the RCRA authority at some wood preserving facilities, especially because of the corrective action provisions under HSWA. Very little coverage under RCRA currently exists for sawmills practicing sapstain control, however. Adding new waste streams to the list of hazardous wastes would make hazardous waste management standards uniform at all facilities, and ease the burden to State and Regional enforcement personnel in formulating a regulatory authority rationale.

If you have any questions, please do not hesitate to call me at (202) 382-4786.

Sincerely,

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