REGULATORY UPDATE

BY TODD E. ROBINS

RURAL WATER AGENCIES IMPACTED BY 1,2,3-TCP, THE NEXT CONTAMINANT TO BE REGULATED IN CALIFORNIA, CAN SUE RESPONSIBLE PARTIES TO RECOVER COSTS

1,2,3-Trichloropropane (TCP) is an "emerging contaminant" of growing significance for rural water suppliers in California. The California State Water Resources Control Board, Division of Drinking, water has announced that, by early 2017, it will adopt an enforceable regulatory standard, or Maximum Contaminant Level, TCP, which the State describes as a "potent carcinogen" that "poses a significant carcinogenic risk when it occurs in drinking water" at low levels. TCP has already been detected in hundreds of water wells in California, but that number is sure to grow as water systems begin regularly monitoring for this pernicious and expensive-to-treat contaminant.

TCP does not occur naturally; if TCP is detected in groundwater, someone is responsible for the contamination. Although TCP contamination has been associated with certain industrial hazardous waste sites, most of the TCP contamination in California's groundwater was caused by soil fumigants manufactured by Shell Oil Company and The Dow Chemical Company that were used widely by farmers from the 1950s through 1980s. Tragically, the active ingredient in these fumigants broke down in the soil into harmless byproducts in a matter of days, but the TCP in those products, which was an unnecessary impurity and provided no benefit to the farmers who used them, will remain in the ground for many years to come.

The good news for affected water suppliers, however, is that, in many cases, viable avenues to recover the costs of treating or otherwise remediating TCP from responsible parties are available.

THE PRODUCTS

TCP was an unnecessary impurity in soil fumigants used to control nematodes (microscopic worms that affect plant roots). TCP-containing fumigants were used extensively by farmers throughout California's agricultural regions in the production of multiple crops from the 1950s through the 1980s. In California, these fumigants, known as D-D and Telone (and later, Telone II) were among the most widely used pesticides in the history of the State. TCP accounted for approximately 1% of D-D, which was manufactured by Shell, and approximately 0.1 to 0.4% of Telone and Telone II, which were manufactured by Dow. Shell took its product off the market in 1984. Dow reformulated its Telone product in the mid-1970s and rebranded it "Telone II," but did not appreciably reduce the amount of TCP in the product until the latter half of the 1980s. Since the 1990s, Dow has sold a virtually TCP-free version Telone II.

TCP'S HAZARDOUS CHARACTERISTICS

D-D and Telone were liquid mixtures designed to be injected directly into the soil. The active ingredient, known as 1,3-dichloropropene, or 1,3-D, would volatilize into a gas, spread through the soil, and then break down into harmless byproducts after several days. The inactive TCP, on the other hand, was barely volatile and incredibly persistent. Indeed, scientific evidence has shown that, in typical groundwater conditions in California's Central Valley, TCP has a half-life of nearly 200 years – one of the most persistent organic contaminants ever encountered. TCP is also highly mobile, meaning that it does not stick to soil, but rather travels readily with rain and irrigation water down into aquifers. Evidence also demonstrates that, because TCP is heavier than water, it often penetrates into deeper aquifer zones than other agricultural contaminants. In short, widespread groundwater contamination was an inevitable consequence of injecting TCP into soil as a constituent of soil fumigants.

In addition to its unusually harmful properties as a groundwater contaminant, TCP is also highly toxic in drinking water. While it is currently an "unregulated" contaminant in drinking water in California, animal studies have shown that TCP is "a potent carcinogen." Such studies have led the International Agency for Research on Cancer to classify TCP as "probably carcinogenic to humans." Similarly, the National Toxicology Program classifies TCP as "reasonably anticipated to be a human carcinogen." The California Office of Environmental Health Hazard Assessment summarized the animal toxicology data for TCP as follows:

- "1,2,3-TCP was a potent tumorigenic agent at many sites. In both rats and mice, the animals died early and the deaths were judged to be due to the tumors."
- "Therefore it is prudent to assume that 1,2,3-TCP represents a significant carcinogenic risk when it occurs in drinking water."

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TCP OCCURRENCE

Because the primary source of TCP in groundwater is past use of soil fumigants, rural agricultural communities are most impacted by this contaminant. In fact, existing monitoring data in California indicates that more than 70 percent of confirmed TCP detections to date have occurred in the San Joaquin Valley. TCP has also been detected in agricultural (and formerly agricultural) areas in Sonoma, San Mateo, Santa Cruz, San Diego, Riverside and San Bernardino Counties.

REGULATORY STATUS OF TCP

Under California law, the first step in the regulatory process for establishing a drinking water standard is adoption of a Public Health Goal. A Public Health Goal is not an enforceable standard, but rather a regulatory objective that is "based exclusively on public health considerations." Health & Safety Code § 116365(c). "If the contaminant is a carcinogen . . . , the public health goal shall be set at the level that, based upon currently available data, does not pose any significant risk to health," defined as an excess cancer risk of no more than one in one million (1 x 10-6) based on lifetime consumption. Id. In 2009, after an extensive peer review process, OEHHA issued a final Public Health Goal for TCP in drinking water of 0.7 parts per trillion ("ppt"), or 0.0007 ug/L – the second-lowest ever set for a drinking water contaminant in California. Because California's detection limit for reporting purposes for TCP is 5 ppt (0.005 ug/L), any detectable concentration of TCP creates an increased risk of cancer.

The State Water Resources Control Board's Division of Drinking Water, the State agency that regulates public water systems, is currently developing an MCL for TCP. An MCL is "the maximum permissible level of a contaminant in water." Health & Safety Code § 116275(f) (emphasis added). Under California law, an MCL "shall be set at a level that is as close as feasible to the corresponding public health goal, placing primary emphasis on the protection of public health, and that, to the extent technologically and economically feasible . . . avoids any significant risk to public health." Id. § 116365(a). Shell and Dow have been lobbying the State to adopt a weak MCL for TCP because they think it will reduce their exposure in TCP cost-recovery lawsuits against them. But according to their own lobbyist, the State "is leaning toward recommending an MCL in the low part per trillion range."

TCP TREATMENT

TCP is expensive to remove from drinking water supplies. Most water treatment experts expect that, once California adopts an MCL for TCP, the State will designate Granular Activated Carbon treatment as the "best available technology" for TCP removal. Carbon treatment involves the installation of several large vessels containing thousands of pounds of activated carbon. As the water passes through the vessels, the TCP and other organic matter attach to the surface of the carbon granules and are removed from the water. Eventually, the carbon becomes saturated and needs to be changed out before TCP breaks through into the treated water. TCP tends to break through more quickly than other organic contaminants. This is the primary reason why Granular Activated Carbon treatment involves significant operation and maintenance costs over time.

TCP COST-RECOVERY LITIGATION

Most small, rural water systems, many of whom are already struggling with expensive water quality problems, such as nitrate and arsenic, cannot afford the high costs of TCP treatment. Yet, communities should never be forced to choose between clean water and affordable water. That is why approximately 40 water suppliers in California – including cities, water districts, mutual water companies and regulated investor-owned utilities, located primarily in the Central Valley – have filed suit against Shell and Dow for TCP contamination of their groundwater supplies aimed at forcing Dow and Shell to pay for the costs of treatment.

Under California law, a water utility's right to pump groundwater is a protected property interest that can be "damaged" by contamination in the same way one's land or personal property can be damaged

by the wrongful conduct of others. The suits allege, among other things, that TCP contamination has caused damage to the plaintiffs' water supplies, and that Dow's and Shell's TCP-containing fumigants were defective products that caused the damage. These claims are focused primarily on Dow and Shell as manufacturers of the defective products, both of whom could have prevented TCP groundwater contamination by producing safer products. Indeed, the evidence developed in the litigation to date shows that:

- Dow and Shell knew TCP was a useless impurity, but labeled products "100% active" in violation of federal pesticide labeling rules;
- Dow and Shell knew TCP posed an environmental risk; and
- Dow and Shell were advised to reduce impurities, and were capable of doing so.

As the parties responsible for this damage to precious California water supplies, Dow and Shell are also in a far better financial position to pay the high costs of treatment than small, rural waters systems and their ratepayers. Even in the absence of an MCL, multiple plaintiffs in TCP cost-recovery suits have reached significant settlements with Shell and Dow, and begun installing treatment facilities to remove TCP.

CALIFORNIA RECOMMENDS EARLY MONITORING

In April 2016, the California State Water Resources Control Board Division of Drinking Water began sending notices to all Community and Non-Transient Non-Community Public Water Systems in the State to advise that "the 1,2,3-TCP MCL will be adopted in 2017" and to "recommend[] all community and non-transient non-community public water systems collect at least one sample from active and stand-by drinking water sources for 1,2,3-TCP in advance of the adoption of the 1,2,3-TCP MCL." Importantly, the Division also recommends: "[w]hen performing early sampling for 1,2,3-TCP, please ensure that sample analyses are performed by an Environmental Laboratory Accreditation Program (ELAP) accredited laboratory using an acceptable drinking water analytical method (SRL 524M-TCP, SRL 525M-TCP, or EPA Method 504.1) with a detection limit of 5 ppt or lower."

NOW IS THE TIME TO GET PROACTIVE

Water systems in agricultural and former agricultural areas should follow the Division of Drinking Water's advice, and begin monitoring now. With the MCL coming, and the possibility that the MCL may be close to the detection limit, this is a good time for rural water systems to evaluate whether TCP is present in their groundwater supplies. Early monitoring will also enable water systems that detect TCP in their water supply to explore cost-recovery options as a component of their response to the contamination. ■

Todd E. Robins is a founding partner of the law firm Robins Borghei LLP (rbwaterlaw.com), and has represented more than 30 water suppliers in TCP cost-recovery cases over the past 12 years. He can be reached at (415) 848-8850; trobins@rbwaterlaw.com.