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1-1-2002

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Recommended Citation
Dunn, Alexandra Dapolito, "Water Quality Trading: Bringing Market Forces to Bear in Watersheds" (2002). *Pace Law Faculty Publications.* Paper 497.
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pliance options that businesses can utilize to meet SPCC requirements. Particularly as to Section 112.7 provisions, EPA authorizes owners and operators to evaluate alternative compliance measures, if needed, as long as equivalent environmental protection is achieved. Consistent with its improved flexibility initiatives, EPA also is allowing a variety of formats to meet the requirements necessary for SPCC plans. EPA specifically authorizes any equivalent prevention plan as long as it meets all federal requirements (including a certification by a professional engineer) and is cross-referenced from the Part 112 requirement to the appropriate page in the equivalent plan.

The new SPCC rule affords businesses enhanced opportunities to achieve compliance consistent with any existing unique operational needs. As is traditional, EPA certainly demands compliance, but the new rule allows businesses to better understand the intent of each provision and develop equivalent environmental protection measures that are equally protective of U.S. navigable waters.

Water Quality Trading: Bringing Market Forces to Bear in Watersheds

Alexandra Dapolito Dunn

Just a few months ago, the U.S. Environmental Protection Agency (EPA) took another key step toward approaching our nation's complex water quality challenges via a holistic, watershed-based approach. EPA published in the Federal Register a proposed Water Quality Trading Policy (proposed policy). 67 Fed. Reg. 34,709 (May 15, 2002); www.epa.gov/owow/watershed/trading.htm. According to EPA Administrator Whitman, the proposed policy offers "greater flexibility and incentives to states, tribes and companies to comply with the Clean Water Act" by providing "incentives for voluntary reductions from all sources to improve and maintain the quality of the nation's waters." When finalized in late 2002, the new policy will supersede President Clinton's 1996 Effluent Trading in Watersheds Policy, but work in conjunction with the prior administration's Draft Framework for Watershed-Based Trading, www.epa.gov/owow/watershed/framwork.html. Public comments on the proposed policy were due July 15, 2002.

Water quality trading (or effluent trading) can have many meanings depending on a trading program's scope or a state's trading regulation or policy. All trading programs are rooted in the concept that market-driven systems can yield environmental improvement more cost-effectively than traditional "command and control" regulatory approaches. In a trade, one water discharger cost-effectively reduces its pollutant discharge loading below the regulatory level, generating a "credit" that can be sold to another discharger that has fewer pollutant reduction options. The end result should be cost-effective for all parties and achieve net water quality benefits.

Trading is not a new concept. In fact, the nation's first effluent trading program was created in 1984 to trade phosphorus between point and nonpoint dischargers in Colorado's Dillon Reservoir. Since then, more than thirty-seven trading programs and related activities have occurred nationwide. U.S. Effluent Trading and Offset Projects (Nov. 1999), www.epa.gov/owow/watershed/trading/traenvrn.pdf. Lately, trading programs have been specifically designed to implement total maximum daily loads (TMDLs). For example, Connecticut and EPA designed a watershed-based trading program to implement a nitrogen TMDL in Connecticut's portions of the Long Island Sound. Idaho and EPA also developed a watershed-based trading program to implement a phosphorus TMDL for the lower Boise River.

Common Trading Program Elements and Trade Structures

Most water quality trading programs contain several common components. These include pollutant baselines and reduction goals; a statement of the eligible pollutants and dischargers; establishment of geographic boundaries; provisions to ensure consistency with federal and state statutes and regulations; systems and processes to administer, enforce, and track pollutant trades; trading ratios; and mechanisms to encourage stakeholder participation.

Four of the most common water quality trading structures are point/point source; point/nonpoint source; intrafacility or intrasystem; and pretreatment trading. In point/point cases, a point source discharger cost-effectively generates credits and sells them to another point source discharger. The second discharger applies the credits to mitigate for new technology or other controls to meet water quality standards. The respective sources' Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits are used to document and enforce the trade.

Point/nonpoint source trades generally tend to be more complicated than point/point trades. The most common approach is triggered by a point source discharger's need to make reductions to achieve water quality standards. Rather than costly facility upgrades, the point source discharger will pay a nonpoint source

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in the watershed to implement controls to reduce the same pollutant. The sources' respective obligations can be established in a contract. However, state regulatory agencies often seek to include the trade details in the point sources' NPDES permit. Point sources can be reluctant to accept this "dual" liability for nonpoint source commitments in their permits. If the nonpoint source fails to achieve the anticipated pollutant reductions, the point source discharger will face NPDES permit violations.

In intrafacility trading, a discharger reduces costs by allocating pollutant discharges among multiple outfalls at a plant. In intrasystem trading, a municipality with responsibility for stormwater trades pollutant reductions between the stormwater system and the wastewater treatment plant. EPA is poised to pilot intrasystem trading at one city water system this year. Finally, in pretreatment trading, a wastewater treatment plant allows trading of certain pollutants, such as heavy metals, between industrial dischargers to the plant.

Trading Program Challenges

Establishing a successful water quality trading program can be challenging when stakeholders disagree on important program design or implementation issues. Some of the more thorny issues can include developing acceptable pollutant data quality and quantity standards. These scientific protocols are essential for setting trading baselines and for assessing progress toward reduction goals. However, reaching agreement between diverse parties in a watershed on what constitutes sufficient data volume, data sources, and data collection procedures can prove an uphill battle.

Another issue relates to enforcing credit-generation commitments. While this can be a significant stumbling block—and at a minimum an omnipresent worry for dischargers—some trading programs have found ways to mitigate concerns in this area. For example, under a TMDL-based trading program in North Carolina's Tar-Pamlico Basin, the state will underwrite nonpoint source nitrogen and phosphorus reductions to minimize the trading uncertainties for point sources.

It is also difficult to document trades. Finding a mutually acceptable place to document the details of a trade, other than a point source's NPDES permit, can be difficult. Managing program and transaction costs also are a concern. Significant costs can be incurred—and sometimes underestimated—by parties designing and administering a trading program, setting pollutant baselines, negotiating trades, conducting pollutant monitoring, and collecting water quality data. These costs, and determining their equitable apportionment, can pose difficulties for an emerging trading program.

Trading ratios establish the unit of pollutant reduction that sources must obtain to receive credit for a unit of load reduction, and setting equitable trading ratios is critical to the success of the program. A one-to-one ratio means one unit of pollutant reduction is needed to generate one unit of pollutant credit. Similarly, a two-to-one ratio means that two units of pollutant reduction are needed to generate one unit of pollutant credit. High ratios can deter participation in a trading program. For example, in a mercury trading program contemplated and eventually abandoned for California's San Francisco Bay, ratios of three-to-one to five-to-one were considered, limiting point source interest in the program.

Finally, it is important to resolve pre-TMDL trading issues. A TMDL creates a baseline for reductions by allocating the pollutant loads to various sources. Without this baseline, controversy can arise between watershed members over the reduction obligations of various dischargers. Furthermore, dischargers in pre-TMDL trading situations can raise another difficult issue: Will they receive credit in a final TMDL allocation for their pre-TMDL reductions? Resolving this question can take some time and effectively hinder pre-TMDL trading.

When finalized, EPA's trading policy is certain to provide clean water stakeholders an important tool to move closer to a watershed-based approach to achieving water quality goals. Whether water quality trading will be broadly embraced by states and the regulated community over time, however, remains to be seen.

CAFE Clash: California, Carbon Dioxide, Corporate Average Fuel Economy, and Other Conundrums

Christine Y. LeBel

When Congress declined to pursue a change in Corporate Average Fuel Economy (CAFE) standards early this year, it quickly became clear that this was not the end of the matter. On July 22, 2002, in what could be seen as a throwing-down of the gauntlet on the issue, California Governor Gray Davis signed into law California Assembly Bill 1493. This made California, the largest car market in the United States, the first state in the nation to actually regulate tailpipe emissions of carbon dioxide (CO_2). The same day, prompted undoubtedly by the domino effect California's adoption of legislation often has on other states and the world, the Alliance of Automobile Manufacturers made clear in a press release its intent to challenge the California law. The battle lines have been drawn in yet another episode of the continuing saga on the issue of global-warming and the

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