



PFAS, MICROPLASTICS & FLEET RULES — RISKS AND OPPORTUNITIES

Subject-matter experts size up strategies for achieving workable wastewater and fleet-emission rules

By Jack Morgan

Few business leaders would question that complying with local, state and federal regulations poses a growing fiscal challenge.

A recent Cato Institute study (bit.ly/Regcosts) estimates that regulatory costs for U.S. businesses comprise from 1.3%–3.3% of total labor costs. Those figures are likely to spike as state and federal regulators take on additional initiatives, including efforts to reduce discharges of per- and poly-fluoroalkyl substances (PFAS) in wastewater, as well as microplastics.

A third concern centers on fleets, amid a push by California and other states to require commercial fleets to phase out half of their gasoline or diesel-powered trucks by 2035 in favor of alternative fuels such as electrically powered vehicles.

Textile Services recently queried consultants and a wastewater-discharge

equipment specialist, plus a fleet-regulations lobbyist, for their views on the likely impact of new regulations in these areas.

PFAS—A TOUGH MOLECULE TO CRACK

The term PFAS extends to a family of some 5,000 compounds that date to the 1940s. PFAS substances have earned the sobriquet “forever chemicals,” because this molecule, comprised mainly of carbon and fluorine atoms, doesn’t break down in nature. Researchers also have linked at least two PFAS compounds, perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), to various illnesses, including kidney and prostate cancer, thyroid disease and liver damage (bit.ly/PFASrisks).

The safety concerns posed by PFAS have made this compound a hot issue among regulators. Ivan Cooper, principal, national water/wastewater practice leader for Civil and Environmental

Consultants Inc., Charlotte, NC, says tightening controls on PFAS is among the highest priorities for the U.S. Environmental Protection Agency (EPA). Cooper knows EPA Administrator Michael Regan from a previous post he held leading the North Carolina Department of Environmental Quality. In that role, Regan dealt with a comparable state-level chemical cleanup issue. Cooper adds that EPA and White House officials have ranked PFAS as their second-most critical environmental issue after climate change. “So they’re hot on it,” he says. “Regulations both on the federal and the state level are coming fast and furious.” In the near term, Cooper predicts federal officials will issue restrictions on PFAS that could include effluent limits on select industries, though it’s unclear if that list will include laundries.

Another consultant, John Shaffer, CEO/principal of EEC Environmental, Orange, CA, also expects quick action on PFAS at the federal level and in various states such as Michigan that are already active in this area. Restrictions will likely vary by region. “PFAS limits are not going to be the same all over the country,” Shaffer says. “They’re going to be very different, depending on whether a POTW (publicly owned treatment works) has other PFAS discharging industries, whether they discharge to a drinking-water source, or they discharge to the ocean or whatever. There’s going to be orders-of-magnitude differences in PFAS limits around the country, from city to city and state to state.”

Laundries aren’t considered the largest industrial emitters of PFAS effluent. Metal finishing and other industrial applications are responsible for delivering more PFAS compounds of greatest concern into the environment. However, PFAS is included on certain textiles, including barrier gowns, stain- and soil-resistant garments and flatwork; and heat-resistant garments. The new federal and/or state rules are expected to restrict PFAS effluent to minuscule

quantities, in the parts per trillion range.

Tom Vanden Heuvel, president of Kemco Systems Inc., Tampa, FL, acknowledges that federal and state enforcement actions are likely. But he adds that these moves won't fix what he sees as an extraordinarily difficult challenge. "There's a continued threat of regulation," says Vanden Heuvel. "I think the biggest challenge of all of this is that it is a problem without a solution."

Among the most promising systems for removing PFAS from effluent, says Vanden Heuvel, is activated carbon filtration that can separate out PFAS and contain it in carbon that's then encased in sludge for safe disposal. The laundry can move the sludge to a landfill, provided they are prepared to accept PFAS-laden substances. Another option is an ion exchange resin that draws negatively charged PFAS molecules like a magnet into a positively charged resin that's then encased in sludge that can go to a landfill that can handle such waste. Vanden Heuvel cautions that both systems require well-filtered water (0.05 micron or better) wastewater. Also, tougher solid-waste restrictions could complicate the use of either of these methods or others.

A third disposal option is to destroy PFAS under high heat and pressure, so that the molecule breaks down into constituent atoms. This method shows some promise, but Shaffer says it's impractical for laundries because of the high volume of water that these facilities use. "The problem is, to get that amount of heat and pressure, you need small quantities, not 30,000 gallons a day," Shaffer says. If a plant uses reverse osmosis (RO) technology, for example, you'd still have several thousand gallons of "reject stream" that would need to go through the specialized equipment. "It's just too much water," he says.

TRSA Vice President of Government Relations Kevin Schwalb is continuing to work with federal and state authorities to help ensure that any PFAS

controls that are imposed are as fair and workable as possible for laundry operators. Vanden Heuvel adds that the regulatory effort could face delays if authorities at either the federal or state levels, target small businesses that can't afford the upgrades needed to eliminate PFAS. He notes that this is an especially sensitive issue for regulators because laundries didn't create PFAS or add it on their own. "It's one of those things

where if they start fining people for it, and quite honestly, the solution is going to be probably \$1 million to \$3 million per site. ... That becomes an existential cost for some of these businesses. I don't know what administration's going to want to put the hammer down on these independents that are trying to keep their doors open for a problem that they themselves are not creating."

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Stay tuned; significant regulatory moves on PFAS regulations could come at any time. However, the implications for individual companies could vary greatly. It's difficult to predict how big a challenge PFAS regulation will pose for individual companies. Contact TRSA's Vice President of Government Relations Kevin Schwalb at kschwalb@trsa.org if you have concerns.

MICROPLASTICS—MORE MANAGEABLE CHALLENGE

The presence of small pieces of plastic in wastewater coming off polyester garments or other textiles is another issue that's drawn regulatory scrutiny, including legislative proposals in California. Fortunately, efforts by TRSA and other advocates have helped temper this movement. Shaffer says the threat of legislation in this area is far less than that of PFAS. He credits Schwalb with helping to de-emphasize the issue in California. "I think Kevin and others did a fantastic job. Otherwise we would be more worried about microplastics in California. There's really no state that I've seen, at least from the laundry industry perspective, that comes close to being worried about microplastics other than California." Shaffer adds that he's unaware of any significant effort in this area at the federal level either.

Cooper notes that while he's not an expert on microplastics, he's unaware of any major push in this area, although regulators are looking at different plastic products. "They're talking at the EPA about PVC plastic pipe waste as being hazardous," he says. "But that doesn't have the urgency of PFAS."

Vanden Heuvel offers a similar take on microplastics. "That one's a much easier fix," he says, adding that enforcement is the key. But if an operator is investing in equipment, such as a shaker screen or basic filtration technology, you might as well look at a system that can improve water reuse. "One of things that I advocate—and it's not only because I sell this stuff—is if you have to make

the investment with your wastewater to be compliant, you might as well spend a little bit more and save 80% on your utility bill."

FLEET—PRACTICAL LIMITS ON ALT-FUEL TRUCKS

Unfortunately, the regulatory outlook facing laundry fleet managers is a bit more like the PFAS situation described above. In both cases, limited and costly technology is making it difficult for government agencies to eliminate PFAS and to get fleet owners to switch to alternative-fuel vehicles.

With fleet conversions, as well as PFAS amelioration, the goals of government agencies are stymied by a lack of affordable, viable technologies that laundry operators and other companies can tap to advance these objectives. Michael Taylor is a senior adviser at HillStaffer, a government relations and public affairs consultancy in Washington, DC. He also serves as the advocacy lead for NAFA, the Fleet Management Association, Edison, NJ. We asked Taylor about the prospects for tougher rules for fleet managers as far as mandates for converting commercial vehicles to alternative fuels. For example, by 2035 California has mandated that half of all heavy trucks will be electric (<https://nyti.ms/49hoCLQ>).

Taylor says government actions like these are impractical for private-sector companies to fulfill. "There's an awful lot of disregard of reality in these rulemakings," he says, noting that a lack of alt-fuel vehicles and fueling stations will complicate this effort. "From my perspective, there are serious questions on the infrastructure. Will the grid be ready? Members on our side really focus on availability of the vehicle, particularly when it comes to needed configurations, as well as requirements around duty cycles and ranges and the limitations of batteries." With current technology, long-haul trucks will require frequent recharging. There are


issues of how well EV trucks will operate in cold weather as well.

Taylor adds that 17 other states and the District of Columbia are likely to take their "marching orders" on fleet conversions from California policymakers. In addition, six states have said they'll adopt the Advanced Clean Fleets (ACF) regulation, which centers on controlling greenhouse-gas emissions.

Taylor works with lawmakers in California and other states to point out the practical limits facing private fleets on emissions control. He also confers with regulators to pursue alternatives. "Our position on all of this is that we support the goals," he says. "What we care about is we want to minimize the burdens on fleets. We want to provide all of our fleet managers with a clear and feasible pathway to compliance. We just keep pointing out at a very granular level in every one of these states that the grid is unlikely to be ready. The vehicles are not available. Therefore we can't be compliant by a certain date. There's a lot of questions around that."

He adds that regulators should consider the financial burdens that private-sector companies take on when governments issue new rules for private-sector fleet operators. "Cost is a big factor too," Taylor says. "Because quite honestly, I don't think many people appreciate the full cost of what's going on here. Is there enough money? Are there enough programs? This is something that shouldn't be ignored, right?"

Taylor's goal is to add an appeals process to the ACF rules for those who are denied exemptions and extensions. He's promoting this process as a legislative fix in California to improve ACF, and he says there's some support for this measure. "We're hoping that California will become a more positive example, and that the other states will follow their example." **TS**

 **JACK MORGAN** is senior editor of *Textile Services*. Contact him at 540.613.5070 or jmorgan@trsa.org.