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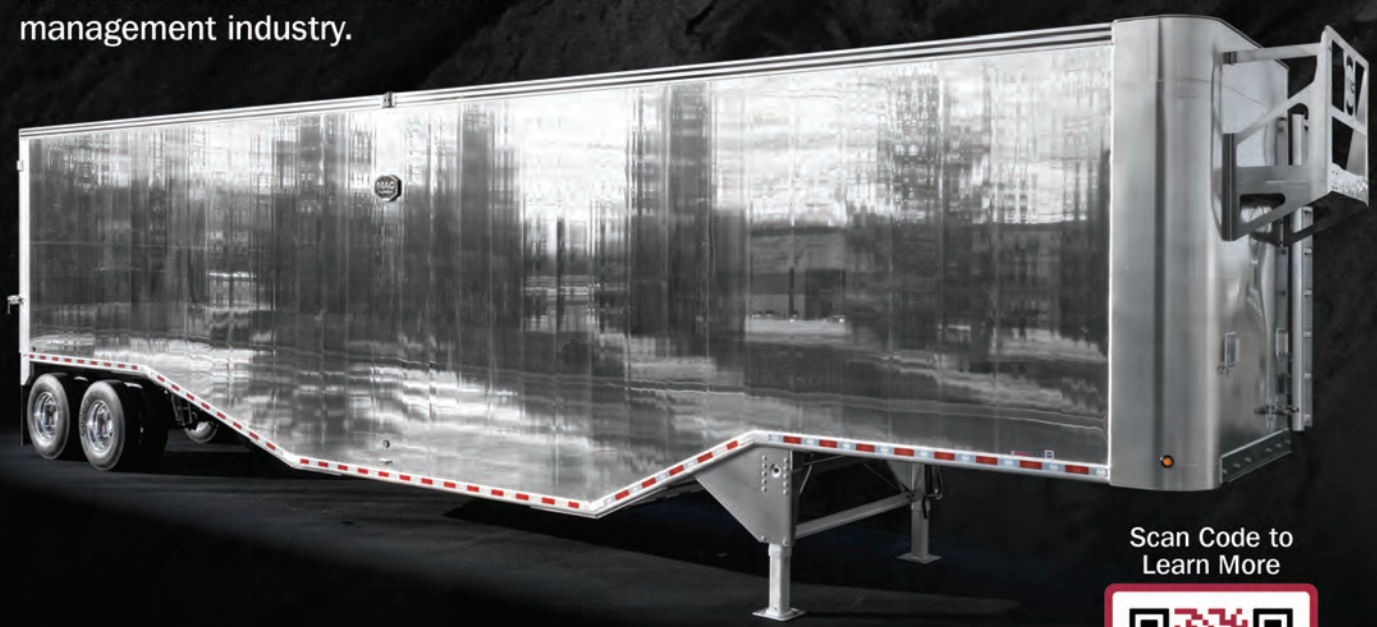

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SHELLEY MANN

Family ties

Whether you're looking for inspiration, innovation or information, there's a story for you in this issue of *Waste Today*.

In reading this issue's cover story, "Keeping it close," starting on Page 14, I was struck by the resilience of a family that has worked hard to keep a Chicago hauling business alive over the years. Over five generations and nearly a century, the Flood family has kept Flood Bros. Disposal running through some significant hurdles.

Patriarch Emmet Flood started the business that would become Flood Bros. in 1930 with one truck and one employee. Emmet's wife sold the company upon his death in the early 1940s, and that could have been the end—but Emmet's children and grandchildren took it upon themselves to get the business back up and running in the years that followed.

Then, following a devastating 1977 fire that destroyed the Flood Bros. facility, the family quickly pivoted, purchasing a few new trucks and restarting the business once again out of a relative's Chicago home.

Since that time, Flood Bros. has continued to grow through expansion and acquisition, always with a firm focus on family. The company's ownership describes the tight-knit team as a family and, in fact, many of the employees have recruited their own family members to join the company.

"It's not just the Flood family," says Kevin Flood, one of three partners at Flood Bros. "Our name's on the truck, but there are many other people with multiple family members on our team."

In the feature "Settling in," starting on Page 28, Civil & Environmental Consultants' Rick J. Buffalini discusses the permitting process and getting a controlled overfill pilot program up and running in Ohio.

He first shared his experience working on a Settlement Accommodation Plan for the Solid Waste Authority of Central Ohio at an Ohio chapter meeting of the National Waste & Recycling Association held in October 2024. This innovative approach to the loss of airspace caused by waste settlement involves controlled overfill in the landfill. It's a solution that has found success in Pennsylvania and could prove useful at landfills across the country.

We've also done lots of reporting over the past few years about fires sparked by lithium-ion batteries and how they disproportionally affect waste and recycling facilities. In this issue, insurance counselor Jason Maslin from Bradley & Parker partnered with Kenn Kunze of IC Fire Prevention LLC to share more about how these fires are affecting the insurance rates for waste companies—and what companies can do to diminish rising rates. Start reading "Higher rates, stricter policies" on Page 36. **wt**

Shelley Mann

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Packaging EPR won't fix recycling—it will make it worse

BY MICHAEL E. HOFFMAN

The future of recycling in the United States is at a crossroads. While some policymakers and environmental groups are rallying behind extended producer responsibility (EPR) as the solution to managing our waste, the numbers tell a different story. Packaging EPR is an expensive, bureaucratic approach that, where implemented, has failed to deliver meaningful improvements. Instead of doubling down on a flawed system, we need smarter, targeted solutions that address the real obstacles to recycling success—a sustainable, economically sound and circular economy.

Right now, the U.S. generates nearly 330 million tons of municipal solid waste annually—roughly 1 ton per person. Our national recycling rate (excluding composting) remains in the mid-to-high 20 percent range, not for a lack of effort but mostly because the recoverable materials are falling outside of curbside waste and recycling collection infrastructure.

State-by-state recycling rates vary from the midteens to nearly 30 percent, correlating closely with access to curbside collection. Where curbside programs exist, access ranges from 50 percent to 98 percent, but actual participation lags by up to 6 percent owing to a mix of forgetfulness, travel or simply waiting for a full bin. In states with lower rates, geographic challenges—rural and semi-rural populations—further hinder participation.

The private sector's multibillion-dollar commitment to modernizing our recycling infrastructure has yielded some improvements. The U.S. currently operates nearly 500 material recovery facilities (MRFs), with most using advanced single-stream processing that incorporates optical sensors and robotics. These modern MRFs process up to more than 100 tons per hour—double the capacity of older facilities—and can cut residual waste by up to 50 percent. Yet contamination remains a major issue, with at least 20 percent of the material in recycling bins being nonrecyclable.

Enter EPR, which its proponents claim will revolutionize recycling recovery rates. However, data from Europe and Canada—where EPR systems have been in place for years—prove otherwise. In Western Europe overall, packaging EPR has only pushed recycling rates to about 40 percent, despite per-person waste generation rates half that of North America. In Canada, British Columbia and Ontario have seen a mere 10 percent improvement.

Meanwhile, EPR dramatically increases costs, often doubling or tripling expenses for consumer product companies while delivering negligible gains in recovery rates.

The real issue isn't a lack of producer responsibility—it's leakage. Across the U.S. and Canada, recovery rates for plastic bottles and metal cans have been stagnant at 30 percent to 40 percent for decades. Why? Because these materials aren't making it into the curbside system. Think about where people discard their drink containers: airports, gas stations, street-side bins, amusement parks and concerts. These out-of-home settings are recycling dead zones, and many of these items still end up as litter.

If consumer product companies truly want to move the needle on recycling, they should focus on solving this away-from-home problem. Expanding public-space recycling infrastructure, improving collection at high-traffic areas and investing in consumer education to reduce curbside contamination would yield far greater results than an EPR tax.

In public spaces, if we separate the waste into wet and dry, modern recycling operations could handle the dry volume and capture recoverable materials. Instead, many of these public settings have confusing signage. As a result, if two bins are present, both are contaminated with trash, which cannot be processed to capture the recoverable materials.

That's not to say fee-based recovery programs don't have a place. They have proven effective for specific hard-to-handle materials like tires, mattresses and lead-acid car batteries, and similar programs are showing promise for items such as rechargable batteries. However, trying to apply the same model to packaging is a costly mistake that won't address the real problems at hand.

Battery recovery programs supported by a producer fee with the certainty of end-of-life disposal are worthy of legislation. A thermal event occurs nearly every day in our collection, processing and disposal infrastructure because of batteries. Lithium-ion battery fires are extremely difficult to contain and can't be put out with water. Lithium-ion battery fires have to be smothered, and not all fire departments are trained or equipped to tackle them.

Recycling needs innovation, not more bureaucracy. Packaging EPR is a costly distraction from real solutions. If we want to make a meaningful impact, we must focus on reducing leakage, modernizing infrastructure and educating consumers—not burdening businesses with an expensive system that fails to deliver.

Photo courtesy of the NWRA

Michael E. Hoffman is president and CEO of the National Waste & Recycling Association, an Arlington, Virginia-based organization championing the waste and recycling industry. Learn more at www.wasterecycling.org.

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MERGERS & ACQUISITIONS

Casella acquires Boston-based recycling and waste services provider

Rutland, Vermont-based Casella Waste Systems Inc. has acquired Charlestown, Massachusetts-based recycling and waste services provider Save That Stuff. The transaction was completed Feb. 3.

"Save That Stuff is an outstanding company, and we're pleased to have Erik Levy and his staff joining the Casella team," says Jeff Weld, vice president of communications at Casella. "The organization aligns well with our core competencies, and more importantly the culture Erik has built over the past 35 years aligns with our core values."

Established in 1990 by President Erik Levy, Save That Stuff provides a range of recyclable materials collection and processing services and works with more than 3,000 New England businesses and institutions to safely dispose of non-recoverable materials.

Its 100,000-square-foot processing facility, located in Boston's Charlestown neighborhood, is approximately 2 miles from Casella's Charlestown material recovery facility.

"This acquisition will help provide more efficient service to existing hauling customers for both organizations while also helping to drive additional circularity for our customers and complementing our recycling and materials management efforts throughout the greater Boston market," Weld says. "We look forward to onboarding the team and bringing additional services and support to our newly acquired customers."

Weld says Casella Waste Systems plans to rebrand Save That Stuff's assets.

Casella acquired a handful of companies in the second half of 2024, including New Jersey-based LMR Disposal LLC, Pennsylvania-based Whitetail Disposal and New York-based sister companies Royal Carting Service Co. and Welsh Sanitation Service.

GRANTS

$9.8M in waste and recycling grants awarded in Nebraska

The Nebraska Department of Environment and Energy (NDEE) has announced the award of $9.8 million in grants to support 136 projects across the state. These grants will help fund waste and litter reduction projects, recycling programs, scrap tire cleanups and collection programs for household hazardous waste, electronics and pharmaceuticals.

"NDEE is grateful to assist local efforts that promote waste and litter reduction," says Interim Department Director Kara Valentine. "The grants help out with the costs of proper disposal of many household materials and make a difference to our communities."

Waste Reduction and Recycling Incentive funds are generated by a fee on solid waste disposed of in landfills, an annual retail business sales fee and a fee assessed on the sale of new tires. Grants are provided to local integrated waste management projects and can include recycling systems, household hazardous waste collections and composting. For 2025, 24 projects

totaling $3 million were funded under the Business Fee and Disposal Fee categories.

Also included in the Waste Reduction and Recycling Incentive program are Scrap Tire funds, which are generated from a $1 fee on new tires purchased in Nebraska. In 2025, 58 grants totaling $2.5 million were awarded. These grants will fund 22 scrap tire cleanup events across Nebraska. Enough funding was awarded to clean up 6,035 tons of scrap tires, the NDEE says.

Funds also will be used to partially reimburse the cost of many products made from recycled scrap tires, such as artificial turf football, soccer, baseball and softball fields; athletic running tracks; and playground surfacing.

Litter Reduction and Recycling funds are generated from a fee charged to certain manufacturers, wholesalers and retailers of products that commonly contribute to litter. The program has provided grants annually since 1979.

In 2025, 54 litter grants totaling $4.3 million have been awarded in the public education, cleanup and recycling categories. Public education programs educate citizens on litter reduction and recycling efforts through a variety of school and community activities.

Cleanup grants provide funding for Nebraska residents of all ages who pick up litter and debris along the state's highways, waterways, recreation lands, urban areas and other public-use areas. Not only are the public areas improved through the removal of litter, but also much of the material collected is recycled, according to the NDEE.

Recycling programs provide an alternative to the disposal of solid waste in Nebraska's landfills. Priority is given to programs that promote markets for recycled materials or purchasing products made from recycled materials.

Grant applications for 2026 will be accepted starting in June 2025.

Photo courtesy of Casella Waste Systems Inc., © New Africa | stock.adobe.com

FACILITIES

Spokane, Washington, explores carbon capture technology at WTE facility

The city of Spokane, Washington, is considering a $650,000 study by carbon capture company CarbonQuest to test its technology for use at the city's waste-to-energy facility.

The facility—the only one of its kind in the state—has been scrutinized by the local community and state leaders, largely because of its emissions, *The Columbian* reports.

A carbon cap-and-trade program under Washington's Climate Commitment Act, which survived a citizen initiative in November 2024, could require Spokane to pay $2.5 million to $8 million annually beginning in 2027 to account for the facility's emissions.

The city lobbied the state legislature in 2023 to fund an emissions life cycle analysis, which found that incineration releases more carbon dioxide than landfilling but not when factoring in electricity generated, recyclable metals recovered and other factors.

As reported by *The Columbian*, the legislature hasn't agreed to an exemption for the waste-to-energy facility, leaving the city with dwindling time to avoid potentially devastating costs.

To prepare for the situation, the city is using funds generated from the carbon credit market to study whether carbon capture technology would be feasible at the waste-to-energy facility.

According to Spokane's 2019 greenhouse gas inventory report, solid waste activities produced 111,560 metric tons of carbon dioxide (CO_2) equivalent in 2019, with waste-to-energy operations accounting for 89 percent of that number, while landfilling only accounted for 7 percent.

Anna Pavlova, senior vice president for strategy, market development and sustainability at CarbonQuest, tells *The Columbian* the city hopes the carbon capture project could serve as a case study for waste-to-energy facilities across the county and potentially abroad.

"The waste-to-energy industry in general hasn't seen much carbon capture, even though that's seen as the one solution to their carbon emissions," Pavlova says. "Our hope is we can demonstrate it's feasible, we can capture emissions, we can continue the plant running—because otherwise that garbage will go into a landfill—and we want to use that as a case study for other companies."

If approved by city council, the study would determine the viability of carbon capture at the waste-to-energy facility, draft designs and explore the best ways to dispose of concentrated CO_2 once it's been removed.

Pavlova says eastern Washington is particurly well-suited for the disposal of CO_2, which typically is stored in deep basalt wells or magnesium formations created from using natural gas. That natural gas can turn carbon into solid minerals such as magnesite.

CarbonQuest's projects in New York have been able to use captured CO_2 in concrete, where it can be stored permanently or put to commercial use. Washington, however, currently lacks the carrots and sticks that make that market viable, Pavlova says.

Officials are optimistic about the potential to sell CO_2 for use in concrete, fertilizer or sustainable aviation fuel, which is a potential use being explored by local startup Twelve.

MEDICAL WASTE

Veolia, MassBio partner with GreenLabs Recycling for medical waste plastics recycling

Last year, Veolia and MassBio completed an agreement with GreenLabs Recycling to support innovative, regionally focused solutions for recycling container lab plastics used in facilities that manage medical waste in Boston.

According to the companies, the partnership provides a solution for these end-of-life plastics, creating a hyperlocal recycling and manufacturing ecosystem for lab plastic consumables.

For example, the companies recycle pipette tip boxes into a lab product they manufacture outside Boston called a tips transfer bin, a benchtop receptacle made from 100 percent-recycled plastic.

The lab plastics designated for GreenLabs recycling from Veolia customers are shipped from the waste generator to Veolia's Middleton, Massachusetts, facility, where the plastics are consolidated to ship to GreenLabs' Concord, Massachusetts, facility. The plastics are separated, granulated and prepared for the molding process.

The granulated plastic material is transformed into the transfer bins using molds at a nearby plastic molding facility, keeping the circular economy solution local and within a 50-mile radius of one of the largest life science hubs in the world.

GreenLabs founder Sam White developed the idea, which led him to connect with MassBio and Veolia. Under the agreement with Veolia, the recycling solution for lab plastics was implemented using a medical waste processing center that Veolia operates in Middleton to aggregate the plastic for GreenLabs.

After a year-long pilot initiation, the partnership has evolved to the point that GreenLabs has diverted more than 200,000 pounds of plastic that otherwise would have gone to a landfill, with some large biotech firms already taking part by contributing containers that can be recycled.

Former New York Rep. Lee Zeldin was sworn in as the 17th EPA administrator Jan. 29.

Lee Zeldin sworn in as new EPA administrator

Lee Zeldin has been sworn in as the 17th administrator of the United States Environmental Protection Agency (EPA).

In the role, Zeldin will work closely with career EPA officials to fulfill the agency's mission to protect human health and the environment.

"It is my honor to serve [as] the 17th Environmental Protection Agency administrator," Zeldin says in a statement. "Under President Trump's leadership, we will take great strides to defend every American's access to clean air, clean water and clean land. We will maintain and expand the gold standard of environmental stewardship and conservation that President Trump [outlined] in his first administration while also prioritizing economic prosperity. ... It's time to get to work."

Zeldin, 44, said during his Senate confirmation hearing that he has a moral responsibility to be a good steward of the environment and pledged to support career staff who have dedicated themselves to the agency's mission to protect human health and the environment, the Associated Press reports.

Zeldin declined to commit to specific policies, however, promising instead not to prejudge outcomes before arriving at the EPA.

Zeldin is in his 22nd year in the United States military and continues to serve as a lieutenant colonel in the Army Reserve. He served in the New York State Senate from 2011-2014 and represented New York's 1st Congressional District in the U.S. House of Representatives from 2015-2023. He unsuccessfully ran for governor of New York in 2022.

Former WM executive joins Amp board

David Steiner, former CEO of WM, has been elected to the board of directors at Amp, a Denver-based provider of artificial intelligence-powered sorting for the waste and recycling industry.

Steiner was CEO at WM from 2004 to 2016. He joined Houston-based WM in 2000 and ascended the ranks to become general counsel, chief financial officer and, eventually, CEO. According to Amp, Steiner is credited with delivering strong financial results and repositioning the $85 billion public company as a "leader in the recycling sector."

"David brings a wealth of leadership experience and an impressive record of execution at the largest environmental solutions provider in North America, and we're pleased to welcome him to Amp's board of directors," Amp CEO Tim Stuart says. "David's perspective will amplify our efforts to embed our solutions into the waste industry and build on the company's momentum following a new round of funding and a significant deal with Waste Connections."

Earlier in his career, Steiner was a partner at the Phelps Dunbar LLP law firm. He currently is the lead independent director of FedEx, where he also chairs the board's nominating and governance committee, and is a director at Vulcan Materials Co., a Birmingham, Alabama-based producer of construction aggregates.

Steiner has a bachelor's degree in accounting from Louisiana State University and a juris doctor from UCLA.

"Amp's solutions are driving strategic change in waste and recycling," Steiner says in the news release about his appointment to the Amp board.

"I'm eager for the opportunity to join Tim and team and contribute to the expansion of technology that's enhancing the economics of transfer stations, preserving airspace in areas where landfill expansion is limited and lowering the cost of recycling, all enabling a new model for the processing of municipal solid waste."

Imakoji

Liebherr appoints managing director of Liebherr USA Co.

The Liebherr Group, a Switzerland-based heavy equipment manufacturer with a regional corporate headquarters in Newport News, Virginia, has announced **Hirohito Imakoji** as managing director of Liebherr USA Co., a mixed sales organization supporting 10 product segments throughout the United States.

Imakoji joins the Liebherr USA executive management team, where he will work with Kai Friedrich, managing director and divisional director of earthmoving and material handling technology.

In his role, Imakoji will oversee the strategic planning and execution of growth strategies for all corporate, finance and administrative functions integrated in the shared services at Liebherr USA Co.

"The United States is one of Liebherr's most important markets, and we are committed to strengthening our operations nationwide to better support our partners and provide the best solutions to our customers," Imakoji says.

Imakoji brings more than 17 years of experience working within the Liebherr Group. He began as an intern with Liebherr-Werk Nenzing GmbH in 2004 and transitioned to a full-time employee in 2007. He later moved to Liebherr-Hong Kong in 2010 and Liebherr-Sunderland Works in 2011. Imakoji most recently supported Liebherr-Electronics and Drives GmbH as managing director of finance and administration.

Born in Osaka, Japan, Imakoji was raised in Salzburg, Austria, where he earned a degree in business and economics.

Photos courtesy of the U.S. Environmental Protection Agency and Liebherr Group

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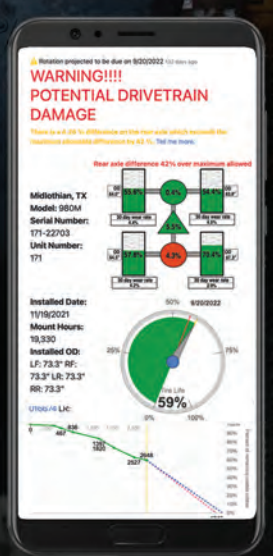

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5 QUESTIONS ABOUT DATA ACCURACY

1 How would you describe the importance of accurate reporting in the waste industry?

In essence, in the waste and recycling industry, accuracy in reporting isn't just a nice-to-have, it's a must-have! Data is the backbone that supports every critical function and decision made to ensure a company operates effectively and efficiently. Without accurate data, you're essentially operating blindfolded, resulting in decreased customer service, operating inefficiency, financial instability and potentially noncompliance.

2 Where do companies fail when it comes to having accurate data?

Companies frequently struggle with collecting accurate data due to a combination of factors, often relying on error-prone manual data entry and implementing multiple disconnected technology systems. This is compounded by a lack of standardized operating procedures and insufficient staff training on data collection and the importance of its accuracy. Reliance on outdated methods coupled with an insufficient focus on process, people and technology can undermine data accuracy throughout your operations. Essentially, garbage in, garbage out.

3 Where should a company looking to improve data accuracy start?

For a company looking to improve data accuracy, I've found it best to start with a people-and-process-first approach supported by strategic action to drive accountability. Begin by defining the data requirements, then assess the current data situation to understand opportunities and identify areas for improvement. Next, invest in training to empower your team to own and adhere to these processes and implement quick wins for immediate results. Plan for foundational process changes to best utilize your technology, tools and systems. This balanced strategy centered on people and robust processes will ensure your company sees effective business-objective-aligned data accuracy improvements.

4 What is the importance of selecting a good software partner?

A strong software partner is just as important as choosing the right software itself. A strong partner with extensive industry knowledge acts as your guide, expert resource, and ongoing support system, ensuring you not only implement the software successfully but also maximize the value of the tool and the data it provides to drive better decisions, improve operating efficiency, increase financial stability, and ultimately lead to greater success for your company. A strong partnership helps bridge the gap between technology and business process, transforming software investment into real, tangible results.

5 What are the advantages of migrating to an end-to-end system such as Navusoft?

Choosing a cloud-based end-to-end system like Navusoft provides a transformative leap forward in reporting capabilities for waste and recycling companies. Consolidating multiple systems into a single solution allows for real-time collection and access to data and reduces risk for manual data entry errors between systems, building a foundation of data accuracy that allows for a more data-driven strategic approach to decision-making. This can result in increased customer service, empowering better operational efficiency and ultimately improving financial performance. The advantages of an end-to-end solution like Navusoft extend far beyond simply generating reports, impacting virtually every aspect of the business.

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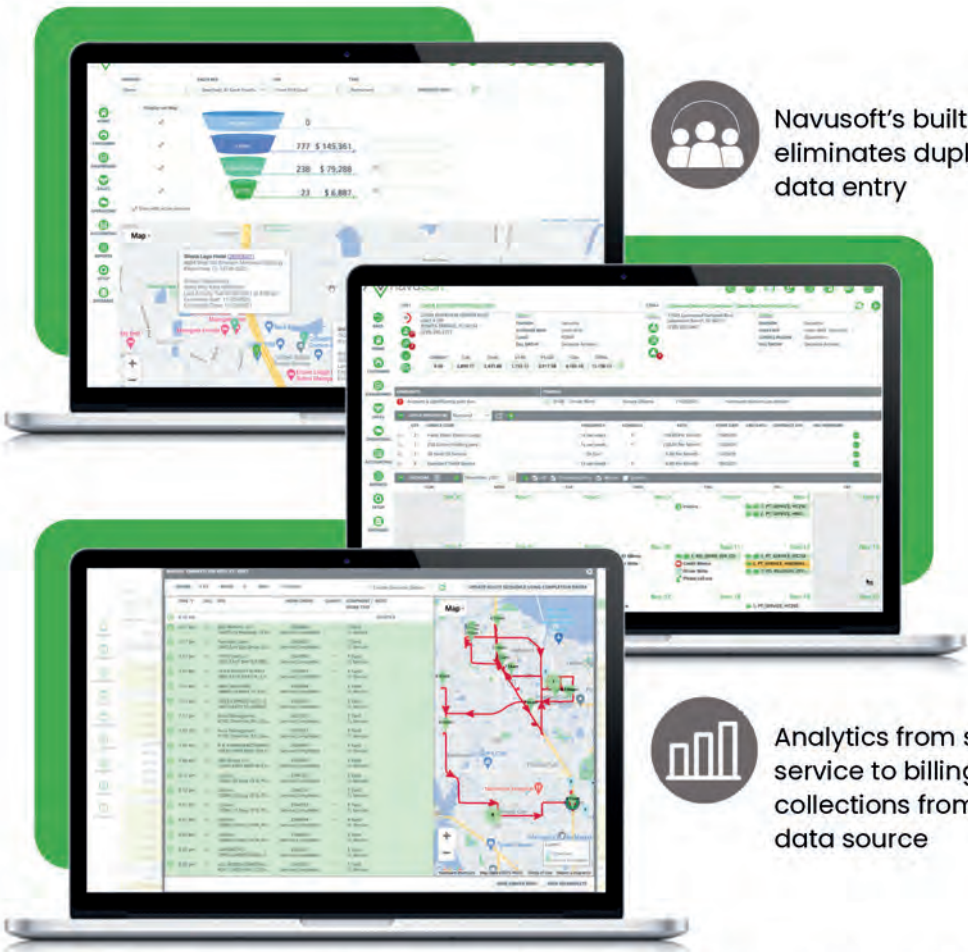

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Flood Bros. partners Bob Flood (second from left), Kevin Flood (center) and Bill Flood (second from right); Director of Sales and Business Development Michael Flood (third from right); and operational personnel Antonio Sanchez (far left) and Ralph Ragucci (far right)

KEEPING IT CLOSE

Five generations of leadership and nearly a century of combined experience have helped Flood Bros. cement a lasting legacy in the Chicago waste market.

BY HALEY RISCHAR

Photo by Rife Ponce Photography

Flood Bros. has remained central to servicing Chicago's waste and recycling needs for five generations. The company's origins date back to the early 1930s, with the Flood family having emigrated to the U.S. from Ireland in the late 1800s.

Thomas Flood and his wife, Anne Mullen, were the first in the family to plant roots in Chicago. Thomas became the city's first health commissioner and eventually opened his own company, Flood Bros. Undertaking and Livery Service, offering transportation services.

His son, Emmet T. Flood, worked in the family business for quite a few years before going to work for Marshall Field's, an upscale department store. He organized workers into a union, according to the *Irish American News*, which printed an article on Flood Bros. in March 2024, giving him a "taste of fair labor laws and helping his fellow employed people gain their rights."

This passion led him to become an organizer for the American Federation of Labor before the Great Depression left him without a job.

In a scramble to provide for his wife and 11 children, Emmet walked the alleys of Chicago looking for "anything of value" to support his family, said Robert "Bob" Flood, Emmet's grandchild and one of three partners who now own Flood Bros., during a 2017 Irish American Hall of Fame Hometown Heroes celebration.

Emmet went on to create an ash-hauling business called North Shore Ash, a form of waste disposal, before laws made it illegal in the 1950s for residents to burn household waste. In 1930, Emmet started a new business with one truck and one employee—the first iteration of what would become present-day Flood Bros.

Upon his death in the early 1940s, Emmet's wife sold the business, but his children—Joe and Mike Flood—and grandchildren later restarted it. As the company grew and evolved to meet the changing waste disposal needs of Chicago, it necessitated frequently moving into bigger facilities.

In 1977, when operations were run out of a garage on Kedzie Avenue, a fire destroyed the facility, and the family quickly adapted to keep the business afloat.

"My dad went to Minnesota with three drivers, bought three trucks and brought them back to my aunt's house at Monticello and North Avenue and [re]started the business [there]," Kevin Flood, Bob's cousin and a Flood Bros. partner, told the *Irish American News*.

FINDING THEIR WAY

After a couple of years, Flood Bros. moved into a new facility on West Harrison Street, where the company's offices and garage still are based. Today, Bob, Kevin and Bill Flood run the company, and each has a unique story of how he entered the

Emmet T. Flood's original ash-hauling truck

Chicago-area residents participate in Flood Bros.' "Touch a Truck" event.

"It's not just the Flood family. Our name's on the truck, but there are many other people with multiple family members on our team."

– KEVIN FLOOD, PARTNER, FLOOD BROS.

family business.

Bob joined the company in 1972 after a previous career in stock brokerage and investments and serving in the U.S. Navy. After a conversation with Mike and Joe, Bob came in part-time, doing cleanup and other odd jobs. He then moved into accounting and customer service roles.

When Bob was looking to progress in his career, he encountered an opportunity to start his own business. In 1973, he purchased two days' worth of a garbage route and a truck, creating Sun Disposal. Alongside his business partner and cousin Mike Garrity, he expanded to two trucks and a six-day-a-week route before merging with Flood Bros. in 1974.

Around that same time, Flood Bros. acquired Northwest Disposal, laying the foundation for the company's rapid growth.

At just eight years old, Kevin, Mike's son, says he would wait outside his parents' room to make sure his dad took him to work during the summer.

He worked in all aspects of the business growing up, from trash collection to sales to bill collecting.

After receiving an undergraduate degree from Marquette University and a graduate degree from Notre Dame University, Kevin founded Astor Co., which he describes as an "Uber for garbage around the country."

In 2018, Kevin was asked to return to the family business to assist Bill and Bob as Flood Bros. prepared to make a transition in leadership.

Bill joined the company straight out of high school, starting as a driver and later becoming an operations manager. He and Bob helped spearhead major changes at the company, including its merger with A. Cherney Disposal and the purchase of routes from Laidlaw Waste Systems.

In the late 1980s and early '90s, Flood Bros. also purchased accounts from a private hauler in north Chicago and expanded its service area into Lake County through commercial and residential contracts with Naval Station Great Lakes and by going door-to-door throughout northeast Illinois.

During that same time, the company secured its first two municipal contracts in DuPage, Illinois, after previously emphasizing industrial, commercial and institutional (IC&I) accounts.

SETTING UP FOR SUCCESS

Flood Bros. also ushered in a new era of advancement, opening its first automated recycling center in 1988. Recycling previously was done by hand, with the company hiring sorters through the Safer Foundation, which promotes second chances for previously incarcerated people.

After the company invested in an automated conveyor system from Wisconsin-based New London Engineering, Flood Bros. sorters were tasked with separating various commodities.

In 1990, the company became the first fully licensed special waste hauler in Chicago, a permit that quickly became beneficial when the city passed an ordinance defining health clinic and hospital waste as specialty waste.

Bill says this helped Flood Bros. win bids because it was the only special waste hauler in the city at the time. The company also was the first to service the initial Chicago curbside recycling program in 1992 for the 12th, 31st and 41st wards, according to the *Irish American News*.

In 1995, the company launched a container fabrication and repair facility.

Today, Flood Bros. offers residential and IC&I collection, servicing 240 municipalities throughout Illinois, Michigan, Wisconsin and Indiana, as well as recycling services and container and compactor rentals.

The company relies on a fleet of rear loaders, front loaders, side loaders, roll-off trucks, trailers and service trucks and has a full-service recycling facility, transfer stations, mechanic shops, welding shops, fabrication shops and truck depots.

Kevin says Flood Bros. has plans to expand its existing recycling capabilities by implementing new technologies and robotics in the coming years. The company's collection operations also have remained on the cutting edge of new technology, employing GPS software in 2002 and camera systems in 2010. Within the last five years, Bill says, Flood Bros. has begun to install tablets on all its trucks to help drivers service accounts.

Photos courtesy of Flood Bros.

MSort from Steinert **overcomes glass recycling challenges**

MRF operators and glass beneficiation plants seeking to sort and upgrade glass can benefit from one of Steinert's newest product lines.

STEINERT has long been a trusted industry supplier for its advanced magnetic, optical and sensor-based equipment designed to sort and upgrade metal and plastic for recycling.

STEINERT's 2024 acquisition of the MSort line from Mogensen today allows the company to bring its competency in quality and reliability to the glass recycling sector.

For operators of material recovery facilities (MRFs), incoming glass can be a complicated portion of an already complicated set of single-stream materials hitting their tipping floors.

In North America, glass bottles and jars collected can vary widely based on municipal program parameters, population demographics and even seasonal consumption patterns.

The MSort product line is ideal because it offers a wide variety of equipment choices and can be integrated into a customized system.

Beneficiation plant operators also benefit from the MSort product range as it allows them to create cullet to a wide range of consumer specifications.

Before the MSort equipment goes to work, operators can deploy magnets, eddy current separators and near-infrared (NIR) sensor sorters available from STEINERT.

Such equipment is used to remove metals and plastics that are considered contaminants in the mixed glass stream (but likely have market value of their own once separated), plus ceramic or porcelain pieces unwelcome in glass furnaces.

From there, a customized system consisting of equipment from the MSort product range takes over. With continuously evolving technology based on more than 25 years of glass sorting experience, the MSort line completes the removal of impurities and separates the glass by color.

The MSort AK, AF and AW series separators can detect and sort glass by color while sorting out any kind of contamination at high throughput. Particle sizes ranging from 0.2 to 2.5 inches can be upgraded to create the highest value raw material for use in manufacturing new glass products.

With MSort AX and BE series, operators can avoid the expense and environmental issues surrounding the use of large amounts of water in wet processing systems as well as the need for power-intensive drying machinery.

Products in the MSort family are designed to complement each other so that plant layouts can be optimized to meet specific customer requirements. For throughput requirements from 10 tons per hour to 70 tons per hour and every type of glass infeed material, we have the solution.

STEINERT has ensured that the durability and reliability its equipment delivers in the metals and waste recycling sectors have been engineered into the MSort line. The units are designed for 24/7 use with minimal spare parts requirements.

"We are continuously developing our sorting systems while always listening carefully to our customers," says Edel Rodriguez, vice president of sales for STEINERT US. "The result is that all MSort sorting systems are mechanically optimized to their application."

The time to invest in MSort is right, says Robert Broughton, president of STEINERT US. "As circularity efforts drive the need for raw materials and high transportation and disposal costs make diversion even more important, now is the time to invest in glass recycling opportunities," he remarks.

More information about the STEINERT MSort line can be found on the STEINERT website, while questions can be directed to sales@steinertus.com.

"It's not just safety," Kevin says. "It's also being able to show that you actually serviced an account. A lot of times, people say, 'Oh, you didn't pick up my account,' and … our drivers are able to pull up [his or her] tablet [and show], 'Here's the picture, here's when I was there, here's the GPS.'

"If there's an issue, it goes right back to our data or our call center, … which makes our ability to respond to issues a lot quicker."

'A TRADE SERVICE MADE'

Fast and easily accessible customer service is paramount to Flood Bros. operations, Kevin says, highlighting the company's emphasis on providing service that has a personal touch.

"We're family-owned, where most ... anybody of our size is owned by ... a hedge fund from Australia ... or they're a Wall Street-traded company from Arizona," he says. "[We're] really the only family firm left in the Chicago market that has [the] service area we do and provides the level of service that we do."

Michael Flood, who works in sales and business development for Flood Bros., says customer service is a primary factor in how the company sets itself apart from its competition in the market.

"There are multiple Floods, but we [have] a team of talented people that are meeting with clients face-to-face, as opposed to over the phone or Zoom calls," he says of the company's sales and client services. "It goes a long way with the customers in this market. They like to see people, and they like people to answer the phone."

Michael adds that regular interaction among team members also goes a long way in meeting the needs of customers as well as drivers.

"We cover a big band of the Chicago metropolitan area," he says. "It's the interaction with our sales team and our drivers, … getting on routes and driving with the drivers to understand the process and understand the challenges they face.

"Our operations teams, … they're senior leaders; they've been around us for a long time. … I think they understand the culture we have and the impact they have being on the frontline every day out in the street—it's the largest piece of advertising every day."

On every truck is the Flood Bros. slogan, "A trade service made," which has been printed on the company's vehicles since Emmet began running his first ash-hauling truck nearly a century ago.

This dedication to service extends to almost every facet of the company and has become a critical part of Flood Bros.' overall culture.

The company's tight-knit attitude applies to its employees, whom Kevin describes as family.

"We have drivers who've been with us for years, but maybe their brothers [also] come work for us. Maybe their wives come work for us, their daughters, their sons, and in different parts of our company," Kevin says. "I think that shows a testament to the ownership team, our family culture and our staff that these people enjoy where they work.

"It's not just the Flood family. Our name's on the truck, but there are many other people with multiple family members on our team."

Flood Bros. makes an effort to be active in its community, as well, with a history of philanthropy benefiting Catholic charities and institutions, children's organizations and more. The company has helped support causes such as the Special Olympics; the Jesse White Tumblers, an organization created to provide positive alternatives for inner-city kids; and the 100 Club, which donates to cover funeral expenses for policemen and firemen who die in the line of service.

Flood Bros. also promotes various organizations and causes by customizing its fleet of trucks.

"Service was always instilled in us," Bob told the *Irish American News*. "The greatest joy, I think, of our business is the fact that we're able to help so many people."

Kevin adds, "We are an American family of Irish descent, committed to our faith [and] community and dedicated to preserving our strong Irish heritage." **wt**

The author is associate editor of *Waste Today* magazine and can be reached at hrischar@gie.net.

Photos by Rife Ponce Photography

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Selecting AND maintaining a SHREDDER

The most crucial factor in predicting a shredder's performance and longevity is selecting the right one for the application.

BY OLIVER GARNIER OF SSI SHREDDING SYSTEMS INC.

After purchasing a new shredder, whether to start a new waste and recycling business or expand an existing one, one of the biggest initial concerns is maintaining the machine to get the most out of the investment.

With a variety of shredder types and an even wider array of applications, no single set of rules applies to shredder maintenance. The most crucial factor in predicting the performance and longevity of a shredder is to select the right machine for the intended application.

When shopping for a shredder, it helps to answer a few key questions:

- What material will be shredded?
- What size will the material be when fed into the shredder?
- What size will material need to be when it is discharged?
- How much material will be processed?

Photos courtesy of SSI Shredding Systems Inc.

TWO-SHAFT SHREDDERS

A two-shaft shredder is the most adaptable style of shredding technology. This type of shredder often is purchased because of its versatility, high throughput capability and low operating cost.

The versatility of two-shaft shredders comes from their low rotary speed and reversing capabilities, which reduce the risk of damage to the machine when it encounters nonshreddable materials. This makes them well-equipped to process contaminated material streams.

The design of the two-shaft technology lends itself to a low operating cost. Long cutting edges on the heavy-duty cutters spread the shearing action over a larger area, extending the machine's maintenance interval. Lower rotary speeds allow the shredder to maintain power while consuming less energy.

SINGLE-ROTOR SHREDDERS

A single-rotor shredder or grinder often is selected for shredding applications that require strict particle size control. Single-rotor shredders have a relatively lower upfront cost and, when properly employed, offer the most cost-effective option for uniform sizing of "clean" end materials. Material streams are considered "clean" when they are devoid of unexpected, nonshreddable contaminants.

Single-rotor shredders typically operate at speeds of 80 to 110 revolutions per minute (rpm) or higher—more than the 10 to 25 rpm of rotary shear shredders. Given the higher rpm and smaller cutting surface, cutters wear faster and require more frequent maintenance. Luckily, servicing a single-rotor shredder often is quicker and simpler when compared with its rotary shear counterparts. Cutters in a single-rotor machine can be rotated up to four times before needing replacement.

FOUR-SHAFT SHREDDERS

Four-shaft machines combine the versatility and robustness of a two-shaft shredder with the particle size control of a single-rotor shredder. Four-shaft shredders often are chosen for their ability to handle difficult materials while still delivering uniform particle size.

Four-shaft shredders also are rotary shear shredders, sharing many of the same advantages as the two-shaft machines.

While four-shaft shredders have a longer maintenance interval when compared with single-rotor machines, servicing them can be more expensive and time-consuming.

PUTTING IN THE TIME

In short, single-rotor shredders require more frequent, albeit simpler and less expensive, service. Four-shaft shredders, meanwhile, require less frequent but more expensive and labor-intensive maintenance. Depending on the application, the relative operating cost can favor either of these styles.

When choosing which type of shredder is most appropriate, operators should consider whether the operation is set up for service. A company with an experienced service team or other equipment requiring service could find the shorter interval of the single-rotor shredder less of an issue. However, for companies that do not have the personnel to perform the maintenance, infrequent service could be more appealing and easier to manage.

How often a machine will require service depends on the application. Operational hours, throughput rate and the physical qualities of the material being shredded all play a role in dictating how often a machine will require service.

For example, a shredder processing mixed plastics could require a cutter change only once a year, while a tire processor with the same machine could need to exchange cutters every month.

MAINTENANCE SCHEDULE

Without a routine maintenance schedule in place, the best way to know when it's time for maintenance is by monitoring the throughput rate. If productivity dips below an acceptable threshold, or if the shredder is reversing more than is tolerable, it's a sign that it's time for maintenance.

Performing maintenance on a shredder means downtime. To optimize that downtime, plan to service or replace multiple shredder components at once. For instance, when changing cutters, check gears, fluids, bearings and seals ahead of time to see if they need replacing along with the cutters.

In nearly all cases, it is cheaper and less time-consuming to employ a preventive maintenance plan than to wait for a critical failure. Operations managers at shredding facilities should allot time in the production schedule for shredders to be serviced and inspected.

CUTTER HEALTH

When inspecting a shredder, it is important to pay special attention to the cutters. Cutters are critical components to maintain because they physically deliver the shearing or grinding action to the material. Keeping cutters sharp and in good working order allows the shredder to run as intended, maximizing production and reducing the load on the machine.

An understanding of how shredding works reveals the importance of cutter health for the longevity of a machine.

In a rotary shear shredder, the hooks on the cutters grab and pull material through the cutting chamber, but the actual shredding happens from the shearing action of two cutting edges passing by each other.

"Shredders are scissors, not saws," explains Auguie Henry, customer service manager for SSI Shredding Systems Inc., a shredder manufacturer based in Wilsonville, Oregon.

As the cutter discs wear, the once sharp cutting edges dull and begin to round.

"Sharp cutters are like hairdressers' scissors; they cut easily," Henry continues.

"Dull cutters are like the blunt-tip scissors you find at an elementary school. They do more folding and stretching than cutting."

Like elementary school scissors, worn cutters do more pulling than shearing. When this happens, production declines and the load on the shredder increases.

Rotary shear machines require not only sharp cutters but a tight cutter stack as well. A loose stack allows the cutters to shift during operation, causing accelerated and uneven wear.

In extreme cases, a loose cutter can even collide with an opposing cutter. When the stack is loose, dirt and other abrasive fine material work their way between the cutters and spacers, wearing away the face. Face wear makes cutters harder to rebuild, shortening their lives.

Single-rotor shredders create their shearing action when the tip of a square-shaped cutter passes through a fixed anvil. As the cutters and anvils wear, the gap between them grows, reducing the production of the machine. The increased gap also generates friction and heat, which can cause the shredder to jam and increase the stress on its components.

While preserving cutter health is important, other elements of the shredder should be monitored.

In the ongoing effort to reduce the load on the shredder, the machine's cutting chamber and discharge chute should be inspected for blockages and cleared prior to starting the machine.

Shredders, like cars, use lubricant to reduce friction between gears in the drive train. Oil should be regularly inspected. Degraded oil or oil with a great deal of debris should be drained and replaced.

Old oil loses its lubricating properties, resulting in increased heat during operation. This heat can damage the gears. Additionally, contaminants such as metal shavings in the oil are abrasive and increase the wear on gears.

A multitude of factors, from application requirements and shredder specifications to personal preference, dictate the maintenance interval of a shredder.

Having clear production expectations can provide a threshold for triggering maintenance tasks.

Operators unsure about the best method for maintaining and optimizing shredder performance should contact experienced shredder professionals who can use their experience and expertise to inform your decision. **wt**

This article was submitted by SSI Shredding Systems Inc., based in Wilsonville, Oregon.

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IN THE FAST LANE

Interstate Waste Services places a focus on waste-by-rail operations to further drive sustainability and lower transportation costs.

EDITED BY
HALEY RISCHAR

Interstate Waste Services (IWS) has established itself as a leading transporter of waste by rail, with three rail-served facilities in New Jersey and two gondola operation facilities in Connecticut and New Jersey.

Based in Teaneck, New Jersey, and with operations throughout the Northeast, IWS relies on a strategic network of rail assets to transport nearly 2.5 million tons of waste annually to its Apex Landfill in Amsterdam, Ohio, which the company acquired in 2020. IWS has made several investments to support the landfill's rail operations, including replacing 5.2 miles of track to support increased rail activity and building a new gondola offloading facility.

Brett Boehm, director of rail operations at IWS, oversees this activity. With 18 years of experience in the waste industry, Boehm previously held roles as a site manager and a general manager for IWS' short-line railroad. Today, his focus is to ensure the company's waste-by-rail network remains safe, efficient, cost-effective

Photos courtesy of Interstate Waste Services

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and environmentally sustainable.

In the following Q&A with *Waste Today*, Boehm gives a glimpse into IWS' operations and where he sees the transportation method heading in the future.

***Waste Today* (*WT*): What is the scope of IWS' current rail infrastructure?**

Brett Boehm (BB): IWS operates one of the largest waste-by-rail networks in America. It [connects] the Northeast region to our Apex Landfill in [Amsterdam], Ohio. Our strategic network includes three unit train facilities in … Newark, Kearny and Bridgewater, New Jersey, and we have two gondola operation facilities in Danbury, Connecticut, and … New Brunswick, New Jersey.

All our cars go to the final destination of the Apex Landfill.

Our fleet consists of roughly 1,000 railcars and 2,900 containers, [enabling] us to transport nearly 2.5 million tons of material annually, up 47 percent from the 1.7 million tons … railed in 2021. We're constantly adding rail capacity, and that's to keep up with our demand.

***WT*: How has IWS developed its rail network? Has it primarily grown organically or through acquisition?**

BB: Our growth story combines strategic investment and operational excellence. We've built our network through careful equipment acquisitions, infrastructure upgrades and improving logistics. We've readily grown our fleet and infrastructure to increase efficiency and internalize more volume. Since we're vertically integrated from curbside to landfill, we are internalizing 99 percent of our volume, which reduces reliance on third-party providers and translates to cost savings for our customers, resulting in more predictable pricing and better service control.

Last year was IWS' 25th anniversary. Over that time, we've grown from a small regional hauler to one of the largest waste-by-rail providers in America. We also continue to grow our service areas. Included in that would be our acquisitions … last year in New York and Connecticut. So, expansion of the rail network depends on our demand, but we're always looking at ways to move more volume faster.

***WT*: Given capacity constraints, how have waste-by-rail services eased transportation challenges?**

BB: IWS' home state of New Jersey is the most densely populated state in the nation, and the entire Northeast region faces significant traffic constraints, congestion and landfill capacity constraints. Our waste-by-rail system really helps with these challenges. Each railcar replaces four trucks on the road, cutting down on traffic in the local areas. We also control our capacity as well, moving waste efficiently to Ohio instead of relying on the locally crowded landfills.

Also, unlike competitors, we run unit trains, meaning waste moves much faster and [is] more predictable than mixed freight or merchandise traffic. This usually cuts down on round-trip time from origin to destination.

It originally would take 20 to 30 days days for a rail car to make the round trip. Now, it takes just six days for our unit train, something no other competitor is doing. Essentially, you can load a can at our facility in Kearny on a Monday and then load that same can again on Saturday of that same week.

***WT*: Do you believe waste-by-rail will continue to be an attractive transportation strategy in the coming years?**

BB: I think it definitely will. Waste-by-rail is becoming increasingly essential for three reasons. It's efficient—rail is four times more efficient than trucks, so we can move more with fewer delays.

It's more cost-effective, so since we're vertically integrated, we can internalize nearly 100 percent of our volume, keeping costs down for our customers.

And lastly, it's sustainable ... Fewer trucks [mean] less fuel, [less] emissions and a smaller carbon footprint. With landfill space shrinking and cities pushing for greener solutions, we see waste-by-rail as an important way to grow.

***WT*: What are the environmental benefits of waste-by-rail? Does IWS have some stats on this?**

BB: Waste-by-rail cuts emissions and fuel use and, as you know, rail is four times more efficient than trucks, which means lower costs and a smaller environmental footprint. In 2024, IWS avoided 106,000 metric tons of greenhouse gas emissions. That's equivalent to taking nearly 112,000 trucks off the road.

***WT*: What are some of the challenges of rail transport?**

BB: Rail definitely does have its challenges, but we stay ahead of them. Track maintenance is critical. Old tracks can cause disruptions or delays, so the track needs to be kept in prime condition. We most recently put $5 million into upgrades on a 5-mile stretch of track between the Harrison and Jefferson County line in Ohio, which is our main artery that goes up to our landfill. That line is now equipped with some of the newest, most advanced rail available.

We supplement those infrastructure upgrades with bi-weekly inspections at our sites to catch problems before they emerge, and that's exceeding the industry safety standards. We also conduct daily calls with all the railroads every morning involved in our traffic to make sure that we communicate any updates or trouble spots for our trains that they might encounter. We know that keeping things running smoothly takes investment and planning, but that pays off in efficiency and reliability.

***WT*: What do you see in the future for IWS' rail infrastructure? Any expansion plans or updates?**

BB: Rail for IWS is always expanding. We're looking to put more equipment into the fleet. We're looking to expand to the north, west and south, as well as to untapped markets, so we're constantly looking to expand and grow in the rail industry. **wt**

Brett Boehm is director of rail operations at Interstate Waste Services, a Teaneck, New Jersey-based waste collection and recycling firm. For more information on IWS' waste-by-rail services, visit www.interstatewaste.com.

SETTLING IN

Settlement accommodation plan permits help increase airspace at the Franklin County Sanitary Landfill.

BY MATT REARDON AND RICK J. BUFFALINI

All municipal solid waste (MSW) landfills experience a loss in airspace from waste settlement. When waste on the lower portions of the landfill side slopes settles to below permitted grades, it can become problematic, but states and landfill operators are innovating changes to help address this complex situation.

Since MSW landfills consist of largely organic material that decomposes over time, it can settle relatively quickly. When waste is placed to the permitted waste grades, it will typically settle between 5 to 10 feet. Waste settlement levels depend on the waste thickness, type, compaction and other factors.

When waste on the lower portions of the landfill side slopes settles to below permitted grades, it can become difficult to fill to the permitted grades higher on the slope. As landfill grades get higher, the loss in airspace increases exponentially.

Landfill operators sometimes can recover the lost airspace by filling thin layers on the lower slopes. However, filling in this manner presents many operational challenges, including stripping existing soil cover; controlling odors from the waste below the stripped area; maintaining operation of an existing gas collection and control system; and placing, grading and compacting waste in an area that might not be accessible to current waste filling operations.

Recognizing the issue facing landfill owners and operators, the Pennsylvania Department of Environmental Protection developed a solution through standard operating procedures (SOP) to implement a settlement accommodation plan (SAP), allowing for controlled filling above permitted waste grades in an effort to maximize the amount of available airspace.

OHIO CASE STUDY

The Solid Waste Authority of Central Ohio (SWACO) owns and operates the Franklin County Sanitary Landfill in Grove City, Ohio. The landfill receives approximately 1.2 million tons of waste annually, has a permitted disposal area of 334 acres and a total permitted disposal capacity of 97 million cubic yards. The landfill serves 41 communities in central Ohio and a population of over 1 million residents.

"The safety and efficiency of our operations is a high priority for the team," says Joe Lombardi, SWACO executive director. "With 42 years of life currently remaining at the landfill, we are focused on helping the Solid Waste District divert more materials from it and to introduce innovative solutions to our operations, which will help ensure it remains accessible to serve the community for many, many years to come."

In 2022, SWACO visited a landfill in Pennsylvania and learned about its SAP. SWACO was then inspired to make the Franklin County landfill more efficient and accommodating to the population demands of central Ohio.

SWACO requested and received approval from the Ohio Environmental Protection Agency (Ohio EPA) to begin a

Photo and graphs courtesy of the Solid Waste Authority of Central Ohio

pilot program to fill the landfill's east-facing slope above the permitted grade of a 3:1 ratio to hold an additional 40,000 tons.

The Ohio EPA asked that during this pilot, SWACO demonstrate that even with the overfilling of existing permitted grades, the landfill would remain in compliance with regulatory and permit requirements to manage odors, landfill gas, leachate, stormwater and erosion.

SWACO contracted with Civil & Environmental Consultants Inc. (CEC), Pittsburgh, to prepare the SAP, which included a narrative description, calculations and a plan view of the area as specified in the SOP. Additionally, the plan included cross sections showing the bottom of waste grades, existing grades, permitted grades, boundaries of the "landfill overfill area," proposed "overfilled" grades and proposed "overfilled" grades at one, three and five years after the final waste acceptance within the overfill area.

"Obtaining an approved permit modification for the SAP speaks to the collaborative efforts of SWACO's Operations and Engineering Teams, our consultant, CEC and the Ohio EPA," says Matt Reardon, SWACO's senior environmental manager. "Without everyone's efforts and willingness to try something new, this project would not have been such a success."

SETTLEMENT ACCOMMODATION PLAN

As part of its SAP process, CEC's design calculations included settlement calculations accounting for age, thickness, density, moisture conditions and composition of waste. Calculations showed the predicted settlement (elevations) at one-year and two-year intervals to show that waste will settle to permitted grades within five years so that the rate can be tracked and validated. Also included was a slope stability analysis that considers the additional height of the waste and steeper waste grades proposed in the SAP and the calculation of additional waste that can be disposed of as a result of settlement accommodation.

The SAP also complied with several limitations regarding the overfilling:

- The approved SAP design can exceed the 33 percent maximum grade limitation on the outer slopes of the landfill to allow for settlement to occur but shall not exceed 40 percent (2.5H:1V).
- The approved SAP design shall not exceed final permitted elevations by more than 10 percent of the total permitted waste thickness in that area. The total permitted waste thickness shall not include the proposed additional waste thickness allowed by the SAP.
- With supporting engineering analyses, the operator shall demonstrate that the permitted final elevations will be obtained within five years after final waste acceptance in the overfilled landfill area.
- A demonstration that stormwater, landfill gas and leachate are managed in accordance with the plans approved in the permit for interim slopes that exceed final permitted slopes in a landfill area.

The settlement analysis confirmed the amount of waste placed above the permitted top of waste grades would settle to the permitted grades within five years of placement. The settlement parameters were determined by reviewing historical topographic and settlement magnitudes.

The short-term settlement parameters were estimated using information obtained from the recent filling of a section of the landfill from the previously existing 4H:1V grade to the permitted 3H:1V grades. The long-term settlement parameters were estimated by reviewing annual topographic surveys and evaluating the total settlement observed over time as compared with the total waste thickness and age in areas where waste has been placed for a longer time. The graph below shows the change in settlement over time based on the evaluation.

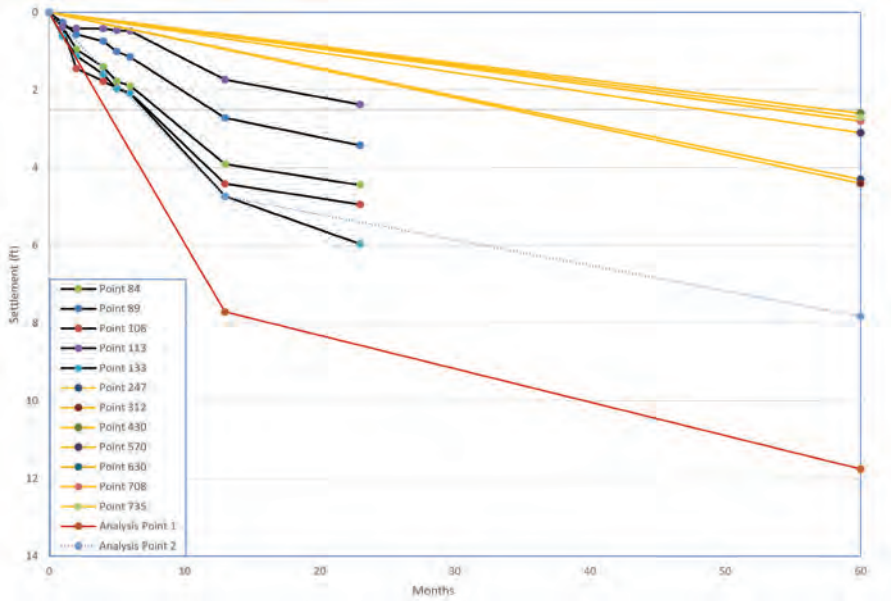
The results of the settlement analysis explained that an overfill slope of 2.7H:1V will result in a maximum of approximately 12 feet of settlement at the top of the slope, resulting in postsettlement elevations below the currently permitted 3H:1V slopes.

Additionally, the results suggest that proposed slopes will be less steep than 2.5:1 and less than 10 percent of total waste thickness and that predicted settlement will be below permitted grades within five years. The modification is expected to provide about 40,000 cubic yards of additional airspace in a 5-acre area, with airspace per acre increasing as filling progresses up the slope and more settlement takes place.

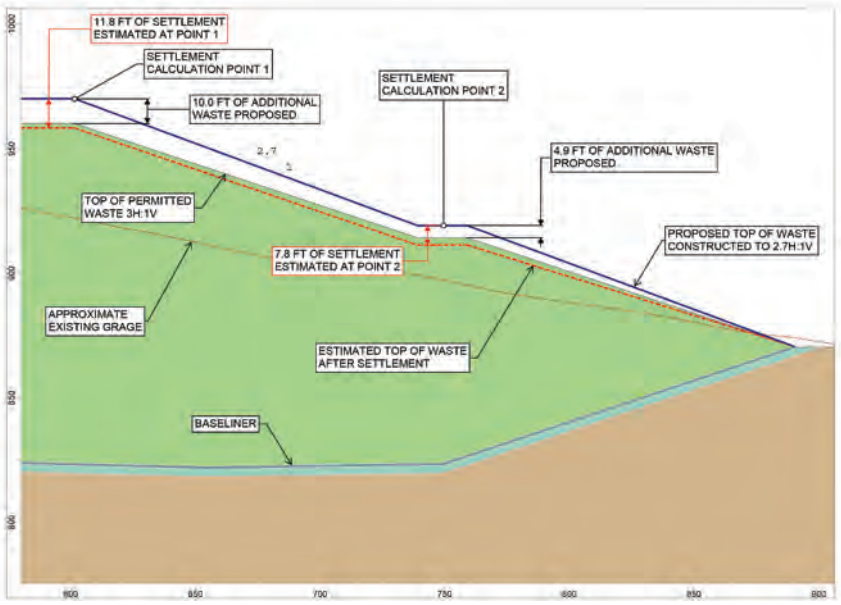
The graph on Page 30 provides a profile of the existing grades, permitted waste grades, proposed overfill grades and predicted settlement grades.

The slope stability analysis included in the SAP showed that the proposed steeper waste grades still met the required factors of safety for slope stability.

The Ohio EPA approved SWACO's SAP, making the Franklin County Sanitary Landfill the first landfill in Ohio to receive permission to fill waste above permitted grades. SWACO implemented the SAP in the proposed overfill area in 2024



Graph of settlement versus time showing change in settlement rate



Profile of existing permitted and proposed grades

and currently is monitoring the settlement of the overfill area. In accordance with the Ohio EPA approval, the results of the settlement will be reported in the organization's Annual Operations Report.

Pending the results of the SAP in this pilot area, SWACO intends to propose implementing an SAP in other areas of the landfill to increase available airspace and extend its life span.

With the approved SAP, SWACO will be able to close portions of the landfill sooner, which will result in less stormwater infiltration, reductions in leachate generation and erosion and an increase in the collection of landfill gas, improving air quality. **wt**

Matt Reardon is senior environmental manager at the Solid Waste Authority of Central Ohio (SWACO). Rick J. Buffalini is vice president of Civil & Environmental Consultants Inc. For additional information or questions regarding this project, email info@swaco.org.

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Opportunities in ORGANICS

Operational complexities aside, organics recycling offers growth opportunities.

BY DEANNE TOTO

A panel of speakers at the Corporate Growth Conference this past November in Chicago discussed the operational complexities of collecting and processing organics, sharing the factors that have enabled their companies' success.

Riley Webb, the vice president of Clairvest, a Toronto-based middle-market private equity firm, moderated the panel discussion that featured Bill Camarillo, CEO of Agromin; Ryan Begin, CEO of Divert Inc.; Andy McNeill, chairman of Denali Water Solutions; Mike Leopold, CEO of Convertus Group; and Harry Cohen, CEO and founder of Natural Upcycling. Webb noted that the panelists had more than 90 years of combined experience in organics recycling, though each has a different business model.

Companies interested in handling organics must be specific about which customers and feedstocks they go after, he said.

"Operators need to manufacture the right products using the right technologies [and] using a consistent feedstock mix. In short, there's operational complexity," Webb said. "They also need to have the right balance between volumes, tip fees, product sales and capital intensity, and not all operators get this right."

DIVERSION OPPORTUNITY

Food waste represents roughly a quarter of the municipal solid waste generated in the U.S., Webb said. While most of this material is landfilled or incinerated, he noted that this is changing quickly in some geographies with targeted curbside organics and industrial, commercial and institutional (IC&I) food waste collection. "There's been a significant build-out of both composting and anaerobic digestion infrastructure, but there's tremendous white space as a significant portion of this infrastructure processes other feedstocks and/or is very low volume."

A company helping to process some of that diverted food waste is Concord, Massachusetts-based Divert. The company is focused on building nationwide infrastructure to prevent food from being wasted by targeting commercial generators, Begin said, with Divert planning to construct 30 facilities within 100 miles of 80 percent of the U.S. population by 2031.

The company's Turlock, California, facility, which began operating in November 2024, is over capacity and flowing gas into Pacific Gas and Electric Co.'s (PG&E's) pipeline. The Turlock Integrated Diversion & Energy Facility can process 100,000 tons of unsold food products annually, sending nearly 225,000 million British thermal units (MMBtu) of renewable natural gas (RNG) into PG&E's system and mitigating roughly 23,000 metric tons of CO_2 emissions annually.

California aggressively is targeting organics, including food waste, for diversion, having passed Senate Bill (S.B.) 1383, which requires organics to be separated from recycling and trash.

Oxnard, California-based Agromin is one of the state's largest organics recyclers and compost producers, Camarillo said. The company manages 1.2 million tons of organics annually and serves more than 200 jurisdictions in 15 counties in the state. In early 2024, Agromin received a $10 million grant from the California Department of Resources Recycling and Recovery (CalRecycle) to convert food scraps and yard waste collected by communities into compost, expanding its composting facility at Limoneira Ranch in Santa Paula, California, to handle an additional 300,000 tons.

Natural Upcycling, Linwood, New York, is a leading regional organics collector and processor founded in 2014 serving the Northeast and Mid-Atlantic regions of the U.S. In 2019, the company became the exclusive New York distributor for the WasteMaster conversion system, which repurposes food and organic waste as reusable resources on-site at hospitals, food manufacturers and processors, hotels, universities, long-term care institutions and hospitality providers.

Cohen said that when the company was founded, he had to educate companies on Natural Upcycling's services and mission. Since then, demand for its services has grown, but standardization in terms of collection has taken longer.

Convertus, based in Canada, is the largest organics waste operator in that country with 13 facilities, Leopold said. The company also operates two facilities in the U.S. and processes a total of 580,000 tons annually across its 15 locations. He added that Convertus is one of the only fully vertically integrated organic processing companies in North America, meaning Convertus can design and engineer organics processing facilities with its Netherlands-based engineering group and operate, finance and maintain them.

McNeill described Denali, Russellville, Arkansas, as the largest recycler of organic waste in the U.S., with more than 7 million tons processed in 2023 and operations across all 50 states. He said the company has more than 50 facilities that convert organic wastes of all kinds, including sludges of different types, food waste and oils and greases, to compost or fuel.

Denali was formed from predecessor companies with roots that trace back to the 1990s, with the "water solutions" portion of its name referring to its origin in providing services to wastewater facilities and biosolids treatment.

DIVERSION DRIVERS

McNeill pointed to landfill scarcity as one reason organics have been targeted for diversion, though he later said that was a "self-made problem" as the United States has "plenty of land."

"Carbon sequestration is another underlying trend," McNeill said, adding that corporate edicts and regulations like California's S.B. 1383 influence that. Renewable fuels, including RINs, or renewable identification numbers, also play a role in the spread of organics recycling.

"Society is leaning into these climate policies, especially in California," added Camarillo, who said companies want to be better environmental stewards.

Begin said that while "zero waste was the historical driver" of organics recycling, preserving food and reducing waste has proven to be "far more impactful."

While the IC&I sector has led organics recycling in the U.S., Leopold said Canada has taken a regulator-led approach targeted at municipalities. By the end of 2025, all municipalities or cities in Canada with 200,000 people must have a green-bin program. "That really allowed the processing to be built," he added. "So, the infrastructure that's in play was really led from the residential side, and the IC&I sector really lags behind compared to where we are in the U.S."

McNeill noted that of the 235 million tons of food available in the U.S. annually, 40 percent doesn't get to the desired outcomes. However, of the 40,000 grocery stores in the U.S., 40 percent send their food waste to companies like Denali to process. "Just taking the produce isn't good enough any longer," he said. "They want to give you the freezer waste and the deli waste and other waste streams that are there that require you to add production in the form of depackaging. And then, if you take hospitals, schools, prisons, casinos, conference centers … any place that has a concentration of potential food and compostable materials, it is a staggering amount of material."

McNeill added that Denali tries to approach this material pragmatically.

"Tons talk and contracts are important," Camarillo said, adding that he has spent "a lot of time and energy developing pathways" to create demand for compost.

"Compost is not a commodity," he said. "It hasn't been one. It doesn't have an index that tells you what it's worth, even though we know what it's worth from its nutrient base. There needs to be a commoditized product in order to create a real

industry sector that has a demand pull on that product."

Begin said Divert is "incredibly hyperfocused on commercial food waste," which he described as "contaminated streams that shouldn't go into compost" because they contain microplastics and other challenging materials. He added that the energy transition is driving much of what Divert is doing with organics.

"We take more of a backstop approach where blocking and tackling are critical," Cohen said of Natural Upcycling. "We want to be really good at collecting organics. We want to standardize the process."

He added that Natural Upcycling invested time in standardizing collection before it tackled pricing its services appropriately in each market it services. "Finding the right audience, the right anchor client, has helped us build our footprint. It wasn't a 'build it [and] they will come' mentality," Cohen said. "We started in Rochester, New York, and we've built out over 11 states, and we continue to build those routes, providing density [and] improved pricing partnerships, and the infrastructure play is really imperative to our growth."

He said Natural Upcycling wants to be a great feedstock supplier to processing companies like Agromin and Convertus. "We're really good at that."

OPPORTUNITIES FOR GROWTH AND PITFALLS TO AVOID

Leopold said growth opportunities exist in the organics recycling space. "And I'm not just playing to the room because I know that this is what you guys are here for."

He added, "When it comes to organics processing, there's a lot more infrastructure needed," which means capital is going to need to be deployed. "We're really big on what I would call partnerships. And partnerships are what allow these types of high-dollar infrastructures to get built."

For Convertus in Canada, municipalities typically are the company's "cornerstone customers," Leopold said. "Once I've got enough volume, let's say 60 percent of what my design is going to be, then I can go forward with a really good rationale as to why we need to build this infrastructure." The contracts that form the foundation of these partnerships are 20 to 25 years in length, he said, not year-to-year.

Webb said the organics recycling space has seen a number of "notable failures" over the years, with Begin adding, "There are absolutely a lot of dead bodies in the anaerobic digestion space."

Some common failures Begin noted were the inability to secure sufficient feedstock, the lack of vertical integration and insufficient offtake agreements.

"We have multiple outlets," he said. "We know where our feedstock is coming from."

Begin added that depackaging is very difficult, with all plastics needing to be removed before the material can be placed in an anaerobic digester (AD).

Camarillo said he was "scared to death of AD plants," noting their operating expenses and track record of failure, adding that he was happy to leave their operation to others.

"We put ourselves on a really short leash, and every project we do is secured with tons and contracts, either from haulers [or] municipalities," he said of Agromin. "Our cycle time is five to seven years to get these facilities paid off. However, they are getting way more expensive."

Camarillo added that it's important not to overbuild facilities because technology is changing so quickly. "We are technology agnostic. We look at that very critically, and composting is a lower-cost solution to diversion today as long as you have markets to move the material."

For the municipalities it works with, Leopold said Convertus considers their collection strategy first and then determines the best technology.

"Organics recycling is a science," Camarillo said, "and you have to know what your customers are looking for and how they're trying to improve soil health. We have soil scientists on staff. We understand what the farmers' needs are."

Agromin asks California residents to bag food waste and put it in their yard waste barrel. "There are higher-value uses for food waste, like digestion, organic fertilizers, things like that, so it's all driven off the customers' needs," he said. "We make hundreds of different kinds of products, and it's all dependent on the application." **wt**

The author is editorial director of the Recycling Today Media Group and can be reached at dtoto@gie.net.

SOLUTIONS **NEEDED**

As Noble Environmental grew, its risk profile changed. It needed solutions. CIA delivered.

Noble Environmental, Canonsburg (Pittsburgh), Pennsylvania, is a vertically integrated waste management firm established in 2016. Since its founding, the company has experienced rapid growth and serves a wide customer base spanning residential, commercial and industrial collection; specialty waste management; and end-of-life electronics. The company owns and operates two transfer stations, seven landfills and a renewable natural gas plant.

Rapid Growth Creates Opportunities and Challenges

Noble's growth has been driven by an ownership group leveraging organic growth and acquisitions to achieve success.

"With a significant number of trucks on the road and multiple operating facilities, we face all forms of risk," says Terry Cunningham, chief financial officer of Noble. "We need insurance to mitigate that risk, and while we require comprehensive coverage, we are also looking for creative solutions and cost-effective policies."

Like so many in the environmental services industry, Noble was struggling with out-of-control premium growth. "We never had significant claims, but our premiums were just clobbering us," Cunningham says. "We had to do something to get it under control."

In 2023, Noble made the decision to partner with Commercial Insurance Associates (CIA). "It's been very good for us," Cunningham says. "They have taken us from playing defense to a more offensive approach to managing risk."

Managing the Risk Profile

"Our risk profile was, frankly, pretty low, but we were not effectively sharing that reality with the underwriters. As a result, we were lumped in with all the bad operators out there.

"CIA helped us leverage our data and tell our story, allowing us to define our own risk profile as opposed to letting someone else define it. It's made a huge difference."

Understanding where Noble is exposed to risk, defining that risk and understanding the coverage needed to mitigate it are critical components of insurance management. "CIA brought a consultive approach to the process. Others say they do that, but CIA actually did it. They brought a deep understanding of the waste industry to the table, especially the hauling side," Cunningham says.

Proactively managing risk is also an important piece of the insurance puzzle. "If you're not actively involved in risk mitigation, then you're vulnerable," says Scott Denbo, CEO of CIA.

Reaping the Rewards

"We have team members sit in on safety calls and other meetings with Noble. We then use that information to collaborate with them to identify, document, manage and mitigate risks. We're also able to then use that insight to manage all the inclusions and exclusions across their insurance policies. It's about active management and total client engagement," Denbo says.

"The work we have done, and continue to do, with CIA has also made the claims management process smoother and faster for us," Cunningham says. "We want to get paid quickly when we have a claim. The CIA process and consultive approach has helped make that a reality."

If you're looking for real solutions in insurance management, risk mitigation and cost control, think Commercial Insurance Associates.

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HIGHER RATES, STRICTER POLICIES

The rising threat of battery fires is impacting insurance for recycling and waste companies.

BY JASON MASLIN AND KENN KUNZE

Battery fires quickly are becoming one of the biggest challenges in the recycling and waste industries. Whether a lithium-ion battery from an electric vehicle or a tiny button battery tucked into a greeting card, these seemingly harmless objects are causing serious safety concerns. And they're not just sparking fires, they're also driving up insurance premiums and changing how recyclers and waste management companies manage risk.

In this article, we'll explore how battery fires happen, why they've become such a growing issue and how businesses can protect themselves while working with their insurers to avoid surprises.

A GROWING PROBLEM

Lithium-ion batteries are everywhere. Seriously—stop and think about how many you're carrying right now. Most people probably have six to 10. These include a smartphone, smartwatch, wireless earbuds, fitness tracker and maybe a backup charger. These batteries are incredible because they last a long time and power many of our favorite devices.

But here's the catch: When they end up at a recycling facility or in the waste stream, things can go very wrong. If not handled properly, lithium-ion batteries can become serious ignition sources. Recycling facilities are full of flammable materials, so once a fire starts, it can spread quickly. What could've been a minor spark can rapidly turn into a raging fire that puts employees and entire communities at risk.

A UNIQUE DANGER

All batteries store energy, which means there's always some potential for heat or sparks. Lithium-ion batteries pose a unique danger because of something called thermal runaway.

When a battery is damaged, whether from being crushed, punctured or overheated, it can enter thermal runaway. This means the battery gets so hot that it starts generating its own heat in a self-reinforcing cycle. The heat builds until the battery leaks, swells, catches fire or even explodes. And once that process starts, it's hard to stop.

Unfortunately, the conditions at many recycling and waste facilities can trigger thermal runaway.

Even small batteries can be a problem. Take button batteries, for example. These tiny, seemingly innocent batteries are easy to miss during sorting. If they're punctured or damaged, they can ignite nearby materials. The scary part is that we all have these types of batteries in our homes—think car key fobs, remote controls, toys and even birthday cards that sing.

When it comes to storing and disposing of batteries properly, consumers could consider keeping spare batteries in a dedicated plastic container to avoid tossing them into a junk drawer with paper, matches or other flammable items. Used batteries can be protected during disposal by taping the contacts and delivering them to a battery recycler rather than placing them in the waste can or blue bin.

THE INSURANCE ANGLE

Companies in the recycling or waste business probably have noticed insurance premiums going up. Fires caused by batteries have become so common that insurers are adjusting their rates across the board—even for companies with clean records.

Typically, waste businesses are seeing 15 percent to 20 percent premium increases. But for companies that have had claims in the past, those increases can be as high as 50 percent or more.

When considering an insurance company, underwriters look at a facility's operations and claims history. They focus on two key things: frequency, or how often the company has had incidents; and severity, or how serious and costly those incidents were.

Battery fires have been ticking both boxes. These fires can destroy buildings, equipment, vehicles and inventory. Business interruption claims add even more to the cost.

Our client base has seen several high-dollar claims caused by small batteries that slipped through unnoticed. Insurers understandably are nervous and have begun passing that increased risk on to their policyholders.

Another trend we're seeing is tighter policy restrictions. Some insurers are adding warranties or exclusions related to fire coverage. For example, a policy might require the company to have active fire, smoke and carbon monoxide alarms monitored by a central station.

Some policies won't cover battery fires unless a sprinkler system is installed. Others are outright excluding certain types of fires caused by batteries.

The bottom line? Read insurance policies carefully. Know what's required to maintain coverage and what exclusions might apply.

PROACTIVE STEPS TO REDUCE RISK

The good news is that companies can take many steps to manage risk and reduce the chance of a fire.

1. Create a comprehensive fire management plan.

A fire prevention plan is required by the U.S. Occupational Safety and Health Administration and will be reviewed by an underwriter. However, the best reason to have a plan is to guide training and audits to reduce fire risk. Think of it like a playbook. The fire prevention plan is your "offense" when you're in control and winning the game.

An emergency action plan also is required. Think of that as your "defense." If you fumble, you need to get back on offense as soon as possible with little loss. Audits, meanwhile, are your "scoreboard." Companies should assess regularly to see if they're meeting the goals outlined in their fire management plans.

2. Focus on key areas.

Inbound source control: A company's first line of defense is keeping batteries and other risks out of the facility in the first place. Educate customers and the public about what shouldn't end up in the recycling stream.

Pile management: Big fires need big piles of fuel. Set limits on pile sizes, including pile height and perimeter. Keep them separate from ignition sources and valuable property. Have a plan for handling incoming material whenever processing equipment is down.

Hot work program: Activities like welding, cutting and grinding cause about 20 percent of fires in the recycling industry. A hot work permit program will help control these risks. Keep all documentation on file for one year.

Detection and protection systems: Fire alarms, sprinklers and other systems are essential. Make sure they're regularly inspected, tested and maintained to ensure an effective response when required.

3. Get everyone involved.

Your team is your greatest asset, and employee engagement is essential. Employees are on the front lines, so make sure they're trained and understand their role in fire prevention.

The local fire department should be part of a fire prevention plan as well. Invite firefighters to tour the facility and learn about the risks and resources available, building that relationship before an emergency happens.

Consult the experts at organizations like the Recycled Materials Association

and IC Fire Prevention LLC, which offer resources and assessments to help companies reduce risks.

When it's time to renew insurance policies, make a strong first impression. Once an underwriter declines an application, it's hard to change their mind.

Applicants should write a detailed executive summary that explains how the business operates, what equipment is used, safety practices and risk management strategies and claims history and what the company has done to improve.

Insurers appreciate it when companies are proactive and transparent. Some even offer risk management tools to help companies improve safety.

SAFETY COMMITTEES

We also recommend forming a safety committee to keep risk management efforts on track. The most effective safety committees meet regularly, adjusting the agenda as needed to focus on high-frequency and high-risk concerns first. Committees should involve people from every department—encourage participation by entertaining all ideas and prioritizing them by relevance rather than ridiculing any individual idea.

Lithium-ion batteries—and battery fires in general—are forcing the recycling and waste industries to rethink how they manage risk. Insurers are watching closely, focusing on the increased frequency and severity of these fires. Companies without solid fire management plans are seeing skyrocketing rates, policy exclusions and stricter requirements.

But there's hope. Emerging technologies are making it easier to detect fires early, and battery manufacturers are working on safer designs. For now, the best way forward is to be proactive. Develop a strong fire prevention plan, work closely with insurers and engage with employees, experts and the local fire department. Taking these steps will help protect your people, your property and your business. **wt**

Jason Maslin is an insurance counselor at Bradley & Parker, Mellville, New York, focusing on commercial, group and personal insurance for high-net-worth companies and individuals. Kenn Kunze of IC Fire Prevention LLC is a retired battalion chief with the Fort Wayne, Indiana, fire department. Learn more at www.icfireprevention.com.

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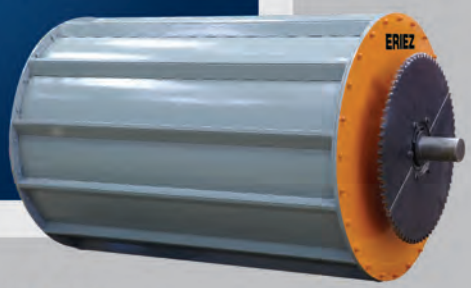

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FORGING A PATH FORWARD

Fleet Advantage's EV Path Program aims to facilitate the shift toward alternative fuel vehicles in a practical way.

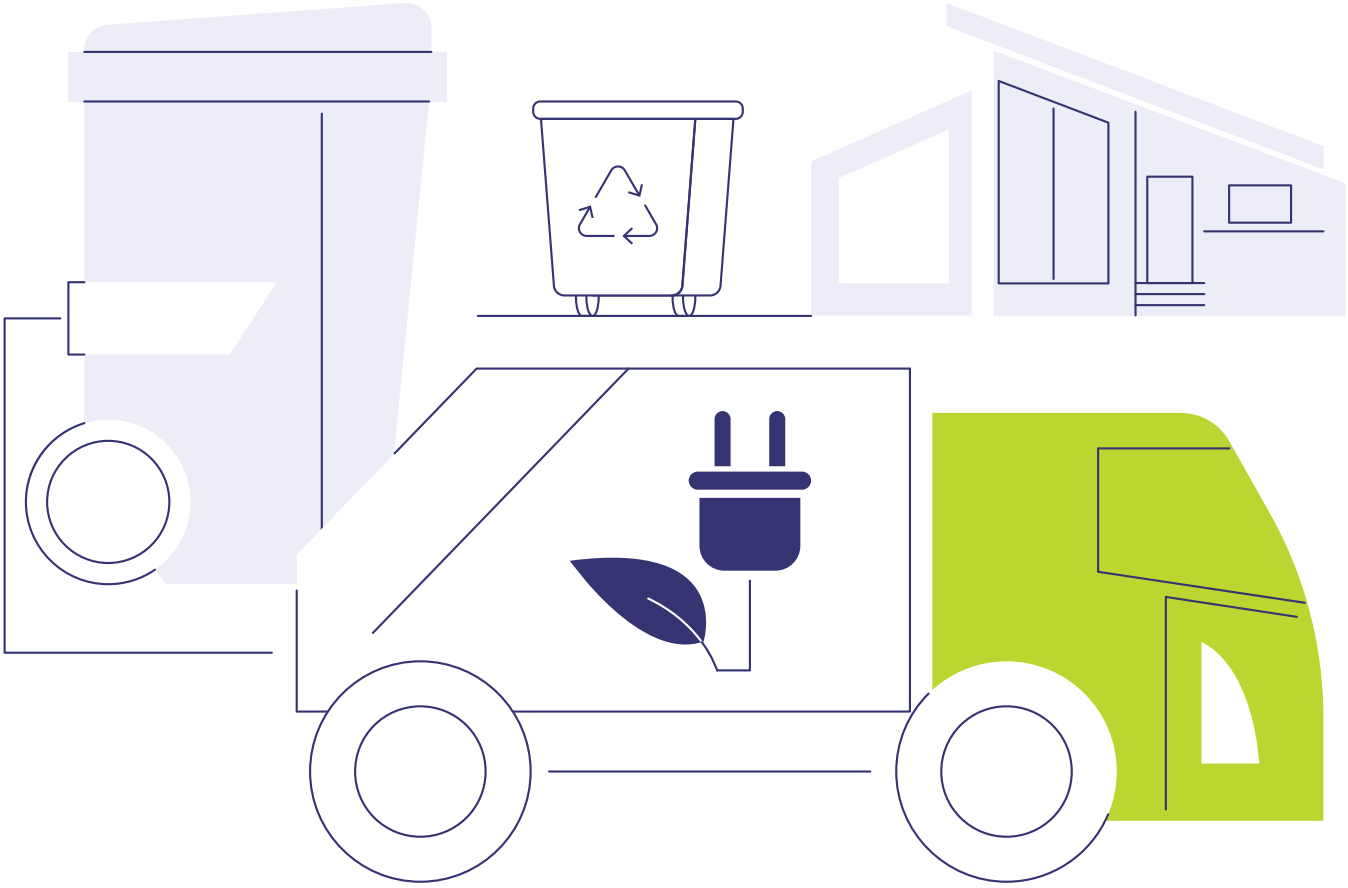
BY TESS KAZDIN

The future of fleet management is evolving. As more and more states adopt zero-emissions mandates that can include transitioning to electric vehicles (EVs), diesel trucks are no longer the only ones on the road.

In California, the Advanced Clean Trucks regulation, which went into effect in 2024, requires manufacturers selling more than 500 medium- and heavy-duty vehicles to report vehicle sales and the amount of EVs, plug-in hybrid vehicles and hydrogen internal combustion engine vehicles sold.

When it comes to transitioning to an electric waste fleet, however, the roadblocks preventing EV adoption can feel impassable. High cost and lack of infrastructure pose challenges, and applying for and receiving grants can be complex and difficult to navigate.

To address these barriers, Fleet Advantage, a fleet management services provider based in Fort Lauderdale, Florida, launched a program in September 2024 to facilitate the shift



toward alternative fuel vehicles such as EVs in a practical way.

"When someone tries to enter that EV space, they're entering a regulatory environment that's very challenging," says Brian Antonellis, senior vice president of fleet operations at Fleet Advantage. "They're entering a grant environment that's very challenging, … and they're entering at a cost point where a typical tractor today is probably $170,000 and a typical EV tractor is $450,000."

Through the EV Path Program, Fleet Advantage will match the monthly lease payment on an electric truck to that of a diesel truck, which the company says could represent savings to the fleet of up to $3,000 per truck per month in addition to offloading the bulk of the equipment's residual risk.

"When you place your order for your traditional diesel trucks this year [with Fleet Advantage], let's take a percentage of those and let's make them EV," Antonellis says.

As a Class-8 independent lessor with approximately 30,000 trucks on the road, Fleet Advantage primarily leases diesel trucks, but Antonellis observed the industry's shift toward EVs and wanted to get ahead of the curve.

"We can't say, 'Hey, that's not where we make our money today,'" Antonellis says. "No, we're going to embrace it, and we're going to help companies make that transition."

After a three-year development phase, Fleet Advantage formalized the EV Path Program and identified some of the trucking industry's most pressing pain points: cost, infrastructure, type of equipment and the grant process.

"When people got new trucks, for decades, it was exciting," Antonellis says. "I felt like people weren't excited about getting into EVs in the truck space because it was so painful."

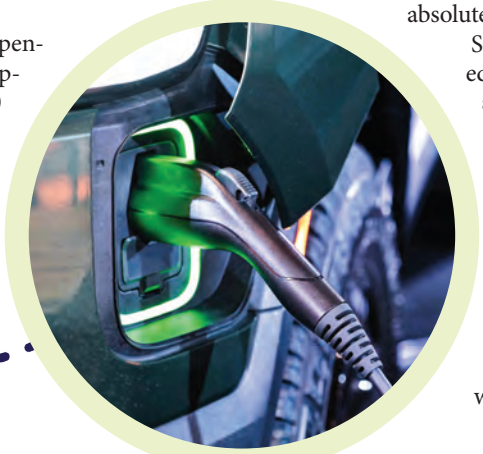
The EV Path Program aims to clear those hurdles and make obtaining an alternative fuel vehicle achievable for fleets.

BREAKING DOWN BARRIERS

Cost is the first barrier for most companies, Antonellis says, and fleet operators have to consider how much they'll spend on an electric truck overall, which includes installing the infrastructure and powering the truck regularly. Compared with the cost of a diesel truck, which needs to be fueled almost daily, these calculations can become detailed, down to the kilowatt hour.

Operators also have to be thoughtful of the truck's application, he says.

"It has to be used correctly," Antonellis says. "It has to be put on the right routes. But in a world where you put some thought into it … and you put the equipment in the right place, it absolutely pencils out."



Selecting the right equipment for the appropriate application can be challenging, and replacing a diesel truck with an EV truck might not necessarily make sense.

Typically, with diesel trucks, the weight is less than EVs. Most weigh between 14,900-16,000 pounds, while an EV truck can weigh 23,000 pounds. This limits the amount of weight an EV can carry under the Department of Transportation's weight limits. Although limits can vary, many trucks cannot legally operate with a gross weight of more than 80,000 pounds, with some exceptions for EV trucks running up to 82,000 pounds.

"You need to think about what you're hauling," Antonellis says. "How are you … making sure that you put that piece of equipment in the right place?"

An example of a relevant application for an EV would be in refuse collection, especially in urban areas, Antonellis says.

"Local delivery and pickup—they're going to fit right in that electric space because you're not going to have a lot of power draw when you're moving down a residential street or even a commercial space and processing the work," he says.

The next challenge is infrastructure—or, more specifically, a lack thereof.

In states like California, where infrastructure is backlogged, Antonellis says it can take 24 to 36 months to install appropriate EV infrastructure, including battery chargers, rapid chargers and battery exchange stations.

"[There's] also that challenge of going out and hiring a contractor to install EV chargers," he adds. "Most people don't have a contractor in their Rolodex, … so they were going to local electricians, and everybody was sort of recreating the process every single time."

To work around this, Antonellis says, Fleet Advantage has partnered with an infrastructure company with a national presence to install EV infrastructure for the company's clients.

The last major pain point is applying for and receiving grant funding, which can be particularly confusing for fleet operators attempting to make the switch. With federal, state and local grant programs available, it can be difficult for operators to know which funding they can apply for. Antonellis says some grant programs are basically run by county.

"If a company was going to wait to hear on grant funding because they don't want to pay the full $450,000 for the tractor, you could be there forever," he says.

Photos courtesy of Battle Motors, © VisualArtStudio | stock.adobe.com

Antonellis says Fleet Advantage takes on the burden of applying for grants for its customers through the EV Path Program.

THE FUTURE OF ALTERNATIVE FUEL

Although they have their pain points, EVs have advantages as well.

They are quieter than diesel trucks, for one, and the reduction in noise can be beneficial for both residents and drivers.

"When we put people in electric trucks, the first thing the driver says when he goes in is, 'I'm going to hate this. It's not going to have enough power,'" Antonellis says. "And then you let them run it for six or seven weeks, [and] they don't want to get out of it."

The environmental benefits of EVs have triggered government organizations like the California Air Resources Board (CARB) to push for clean vehicle regulations. These mandates typically emphasize zero-emissions vehicles, and Antonellis warns against disregarding the benefits of other alternative fuel vehicles as they pertain to replacing diesel.

"While EPA [the Environmental Protection Agency] and CARB have the best intentions when they're going through these processes, I feel like we're overlooking a lot of really good strides we can make," he says. "I think that we're going to see some natural gas [as well as] some hydrogen fuel cell to extend range. … I think of biodiesel [and] renewable diesel. I even think of combustible hydrogen. While it's not considered zero [emissions], … it's better than diesel."

The EV Path Program, though focused on electric options, could see a shift to include other alternative fuel vehicles down the line, Antonellis says.

Regulation could be driving the shift toward alternative fuel vehicles in certain states, but it could be prudent for fleet operators in states without EV mandates to consider making the switch as well.

"As a country, we're not going to be on diesel forever, so if you think you're going to wait and be the last company to switch, you're not going to be able to adjust," he says. "As that percentage starts to shift away [from diesel], we think we're going to see a cost shift. So, you want to be proactive. You want to be out in front of it." **wt**

The author is digital editor for the Recycling Today Media Group. She can be reached at tkazdin@gie.net.

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FedEx acquires RouteSmart Technologies

FedEx Corp., Memphis, Tennessee, has acquired RouteSmart Technologies, a Columbia, Maryland-based route optimization solutions provider serving newspaper, postal and parcel, utilities and field service, public works and waste collection organizations worldwide.

FedEx says the acquisition of RouteSmart will allow it to drive efficiency across its global operations while also strengthening its suite of technology solutions.

"This is yet another step on our journey to make supply chains smarter for everyone as we revolutionize logistics," FedEx Corp. President and CEO Raj Subramaniam says. "Our physical network generates terabytes of data that contain invaluable insights about the global supply chain. Through this acquisition, we will use RouteSmart's expertise and proven technology platform to accelerate the deployment of a common route optimization capability for FedEx operations that will enable our team members to work safer and smarter as they deliver superior service to our customers."

According to FedEx, the companies expect "a seamless integration." FedEx has long been a customer of RouteSmart, using its Routing as a Service (RaaS) product in its ground operations. RaaS serves as the backbone for the internal FedEx Route Optimization tool, which it plans to roll out globally as part of ongoing network transformation.

RouteSmart will continue to work with customers across a broad range of industries and will operate as a standalone entity under FedEx Dataworks, a direct subsidiary of FedEx Corp.

Athens Services to open California MRF

Athens Services, a waste and recycling services company in Southern California, soon will open a new material recovery facility (MRF) in Irwindale to process a variety of material streams, including dry commercial, residential, mixed residential and dry municipal solid waste, with a processing capacity of 70 tons per hour.

The MRF, designed and installed by San Diego-based CP Group, is engineered to be highly flexible, with the ability to recover recyclables or create a refuse-derived fuel product, the supplier says. The Irwindale MRF is expected to be fully operational by May.

The MRF is housed in a new 155,500-square-foot building in Los Angeles County's San Gabriel Valley and is projected to divert nearly 200,000 tons of material from landfills annually.

The MRF features two infeed lines, each with 35 tons per hour of capacity.

The use of a CP Auger Screen means the system does not require a traditional presort station. The OCC Auger Screen fractionates large materials, while smaller materials pass through another series of scalping auger screens.

Next, a CP Disc Screen separates 2D from 3D materials, preparing them for downstream sorting using near-infrared and artificial intelligence systems paired with air ejection.

"This facility represents a new era in waste management and sustainability for Athens Services and the communities we serve," says Riel Johnson, vice president of Resource Recovery at Athens Services. "By combining cutting-edge technology with sustainable practices, we're leading the way in resource recovery."

Toppoint Holdings closes $10M IPO

Toppoint Holdings Inc. of North Wales, Pennsylvania, has closed its initial public offering of an aggregate of 2.5 million shares of its common stock at a price of $4 per share, for a total of $10 million in gross proceeds before deducting underwriting discounts and estimated offering expenses. The company's shares began trading on the NYSE stock exchange Jan. 22 under the ticker symbol "TOPP."

Toppoint also has granted the underwriter an option, exercised within 45 days from the date of the final prospectus, to purchase up to an additional 375,000 shares of common stock at the public offering price, representing 15 percent of the shares sold in the offering, less underwriting discounts and commissions, to cover overallotments.

The company was established in 2014 and specializes in transporting recovered paper, scrap metal and wooden logs for large waste companies, recycling centers and commodity traders. Toppoint's operations extend to major ports, including Newark, New Jersey, and Philadelphia. Toppoint Holdings expanded into the recycling export transport markets of Miami, Tampa and Jacksonville, Florida; Baltimore; and Ensenada, Mexico, as of 2024. The company also provides trucking and logistics brokerage solutions for plastic and other commodities, servicing key commercial hubs across the U.S.

Toppoint expects to use the net proceeds from the IPO for geographic expansions, investments in physical and information technology infrastructure, growing its sales team and marketing efforts and general working capital and other corporate purposes.

Viably named authorized Diamond Z distributor

Viably, a Denver-based equipment distributor to the waste and recycling industry, has been named an authorized distributor for Diamond Z grinders in California, Arizona and Nevada. The company says the expansion strengthens its product portfolio, offering commercial wood recyclers, composting facilities, land-clearing companies and organics recyclers access to its grinding solutions.

"This partnership and product expansion underscores Viably's commitment to providing a complete suite of solutions for our customers in the waste and recycling industry," Viably President Brandon Lapsys says. "By distributing Diamond Z grinders, we're ensuring our customers have access to even more of the best equipment on the market, enhancing their efficiency and operational success."

From left: Niko Aunio, senior vice president of MPP Global; Kurt Schoppe, director of operations—West U.S. for Viably; Brandon Lapsys, president of Viably; and Ben Frettsome and Cory LaCrosse, vice presidents at Diamond Z

Photo courtesy of Viably

Viably adds Diamond Z's high-speed grinders, including horizontal, tub and electric models, to its current product portfolio, which also includes the Komptech Lacero 8010 horizontal grinder.

"Together, these product offerings provide unmatched versatility for businesses with processing and throughput requirements of all sizes, with options tailored to a wide range of needs," Viably says.

The company notes that customers who currently use Diamond Z grinders will benefit from Viably's localized technical and parts support network, with on-the-ground service teams and parts availability across California, Arizona and Nevada.

Customer benefits of the partnership expansion with Caldwell, Idaho-based Diamond Z include comprehensive equipment solutions, a broad product range, expert service and support, tailored solutions and a commitment to growth, Viably says.

"We're thrilled to join forces with Viably," Diamond Z Vice President Ben Frettsome says. "Their deep connection within the waste and recycling industry ... [makes] them the perfect partner to help us expand our presence in the Southwest region."

Hyva rear loader

To address the continued issue of finding and retaining commercial driver's licensed (CDL) drivers in waste collection, Hyva's Beta Rear Loader has been made available in the U.S. and Canadian markets. The Netherlands-based manufacturer's rear loader is available in 11-, 13- and 16-yard configurations. The 11-yard Beta can be mounted on a non-CDL chassis, and 8- and 10-yard low-profile bodies for the cab-over market will be available soon. Key features include:

- a flat-floor design with a heavy-duty floor-mounted ejector cylinder
- a 2-yard hopper and a tailgate that can accommodate a bin lifter, winch and container kickbar
- a lower weight that does not require federal excise tax

For more information, visit www.hyva.com.

Volvo CE articulated hauler

As part of Volvo Construction Equipment's (Volvo CE's) fully revamped articulated hauler lineup, the A50 offers a new class size of articulated dump trucks. The Shippensburg, Pennsylvania-based manufacturer says the A50 provides contractors with a new option to handle rough terrain. Key features include:

- a 50-ton payload capacity and full hydraulic suspension for increased productivity
- a Volvo drivetrain with Terrain Memory and predictive gear selection for improved traction
- a Volvo D16J engine with a maximum horsepower of 516 at an engine speed of 1,900 rpm

For more information, visit www.volvoce.com.

Rice Lake in-motion truck scale system

Designed to improve throughput at high-volume facilities by maintaining a consistent flow of traffic, the Survivor OTR-IMS is a new in-motion truck scale system from Rice Lake Weighing Systems, Rice Lake, Wisconsin. The system can be installed with new scales or retrofitted to existing scales. Key features include:

- a 1280 Enterprise Series weight indicator with legal for trade, in-motion software that records vehicle ID and gross weight
- a LaserLight3 remote display and speed sensor
- compatibility with steel or concrete deck Survivor OTR truck scales

For more information, visit www.ricelake.com/otrims.

Photos courtesy of respective companies

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Abigail Metsch

PUBLIC RELATIONS AND MULTIMEDIA MANAGER, BVSWMA INC./TWIN OAKS LANDFILL

With a background in broadcast journalism, Abigail Metsch, public relations and multimedia manager for the Brazos Valley Solid Waste Management Agency (BVSWMA) and Twin Oaks Landfill, never expected to find herself in the waste industry.

While working as a news anchor for a local station near College Station, Texas, she visited the Twin Oaks Landfill for a story on the agency's Twin Oaks Renewables project, which included developing a facility to capture landfill gas and upgrade it to high-quality renewable natural gas.

BVSWMA Executive Director Bryan Griesbach spent a few hours giving Metsch a tour, and the two stayed in touch, with Griesbach often sending story ideas about what the agency was up to. When Metsch's contract at the news station was set to end, BVSMWA was looking to hire a team member to handle public relations (PR), and Griesbach alerted her of the position.

"After that conversation, we met for coffee, and the rest is history," she says.

Metsch is now seven months into the role, and she already has made an impact on BVSWMA's outreach and education efforts within the community. With an emphasis on storytelling and interactive, visually appealing communications, she has created video series and other media to reach broader audiences.

In the following interview with *Waste Today*, Metsch shares how she's adapting to her new role and what she hopes to bring to the solid waste industry.

***WASTE TODAY* (*WT*)**: How has your experience translated to your current role? Have there been any parallels?

ABIGAIL METSCH (AM): There are a ton of parallels that I found between journalism and public relations, and I actually believe that my background as a TV news anchor makes me an even better public relations manager.

When you want your community to know about something that's happening at your site, or maybe just in the industry as a whole, you tend to lean on local TV, radio and other media publications to help spread the word. But if you've ever tried to pitch a story, then you know that not every story is picked up. It's all about how you sell it and who you sell it to.

As the PR manager, it's my job to convince people that whatever story we're telling matters and that they should care about it.

WT: What do you hope to bring to your current role? How has your multimedia experience been beneficial?

AM: I think that coming into this role having little to no knowledge about the solid waste industry has served us well. There are experts at the Twin Oaks Landfill and, really, across the solid waste industry who live and breathe it, and they need someone to help them communicate things in layman's terms.

If you have a conversation with someone who has been in this industry for 20 years, you're [not] going to understand what they're saying. … They're going to the WasteCons and other conferences like that, and they're speaking to people who understand [them]. But when you're trying to get the point across to someone like me or to someone else that has no knowledge of what you're talking about, it's going to be kind of confusing and overwhelming. A lot of the time that means that people are not doing the research or going the extra mile to uncover the truth about what's going on in the solid waste industry.

So, that's what I'm doing for BVSWMA. I'm able to take these complicated topics, like converting landfill gas to clean energy, and I'm able to explain what that means in a way that our everyday community members can also understand.

"As the PR manager, it's my job to convince people that whatever story we're telling matters and that they should care about it."

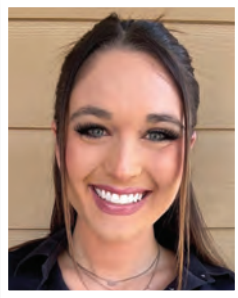

Photo courtesy of Abigail Metsch

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Hear the full interview by visiting *Waste Today*'s podcasts section at www.WasteTodayMagazine.com/tag/podcasts

Do you know any new or young professionals in the waste and recycling industries? Send suggestions to Haley Rischar at hrischar@gie.net.

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