

OPERATIONS

T

hey came to Chicago from as close as Des Plaines, Ill., and as far away as Denmark. They sawed pipes in half with breakneck speed, fearlessly navigated confined spaces to rescue unconscious victims, and demonstrated the skills that make water professionals the heroes that will help secure a more sustainable future. They were Operations Challenge 2019 competitors.

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CHALLENGE

A record-breaking 47 teams participated in this year's Operations Challenge competition, which, during its 32 years of history, has become a WEFTEC mainstay. After two pulse-pounding days of competition, the winners emerged. Elevated Ops from the Rocky Mountain Water Environment Association (RMWEA) took the overall Division 1 victory — the first RMWEA win since 2007; and the North Texas Rangers from the Water Environment Association of Texas claimed the top spot in Division 2.

Justin Jacques with additional reporting from Katherine Saltzmann and Steve Harrison

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OPERATIONS CHALLENGE

ELEVATED OPS SOAR TO NEW HEIGHTS AS DIVISION 1 CHAMPIONS

The Rocky Mountain Water Environment Association Elevated Ops left Chicago as Division 1 champions after top showings in the Process Control, Laboratory, and Safety events. Elevated Ops includes Matt Duncan, Josh Mallore, Lance Wenholz, captain Kelsey Gedge, and (not pictured) coach Orren West. Kieffer Photography



T rue to form for a team representing the Rocky Mountain Water Environment Association, Elevated Ops has been steadily scaling the heights of the Operations Challenge competition since the team made its national-level debut 4 years ago. In 2016, Elevated Ops placed first in a crowded Division 2 field. The team wasted no time leaving its mark on Division 1, netting fifth place in 2017 and third place in 2018.

When the dust cleared on Operations Challenge 2019, Elevated Ops found itself at the top. The team from the Metro Wastewater Reclamation District (MWRD) in Denver left this year's competition as Division 1 champions. Members include coach Orren West, captain Kelsey Gedge, and competitors Matt Duncan, Lance Wenholz, and Josh Mallore.

"It feels like we got the right team in place," Gedge said. "As individuals, we are all different with unique personalities, strengths, and weaknesses. As a team, we use those differences to

our advantage by putting people in the roles where they can have the most success."

Out of seven Division 1 teams, Elevated Ops earned the top spot in the Process Control Event and took second place in the Laboratory and Safety events. That was enough to narrowly propel the team past last year's reigning champions, the TRA CREWSers from the Water Environment Association of Texas. Strong team management and a robust support system at home were crucial to Elevated Ops' victory, Gedge said.

"Our coach, Orren West, deserves a ton of credit for our success and development. He brought Operations Challenge to MWRD 5 years ago and started the program from scratch," Gedge said. "We also would not be here without the support of the MWRD Board of Directors, District Manager Mickey Conway, senior management, our co-workers, and the Rocky Mountain Water Environment Association. We proudly represent all of these folks when we compete."

One takeaway from the win, Gedge said, is that

CHALLENGE 2019

Elevated Ops' skilled opponents show no signs of slowing down.

"It seems like the competition level rises every year. There are so many good teams nationally and internationally that it really motivates all of us to put in the work to try and keep up," Gedge said. "The opportunity to compete and interact with other Operations Challenge competitors has been amazing, inspiring, and humbling. These teams are great ambassadors for our industry, their organizations, and their member associations."

Elevated Ops already has their eye on next year's meeting at WEFTEC.

"We learn things at every competition that we can incorporate into our practices and procedures and this year's competition was no different," said Gedge. "There are always things during the competition you wish would have gone better or different, but that is what drives you to the next competition." 🦋



Elevated Ops entered Division 1 in 2017 after winning first-place in Division 2 during their national-level debut in 2016. Standing before a crowded room at the 2019 Operations Challenge Award Ceremony, Elevated Ops were announced as Division 1 champions for the first time. Kieffer Photography

NORTH TEXAS RANGERS CLINCH DIVISION 2 VICTORY DESPITE EQUIPMENT HURDLES

Tensions ran high when an equipment failure during the Collection Systems Event cost the North Texas Rangers from the Water Environment Association of Texas more than 30 seconds. The team — coach Rey Davila, captain Zachary Jackson, and competitors Jeremy Thompson, Joshua Deaver, and Caeleb Butler — successfully lobbied judges for a do-over, with one condition: The Rangers would have to run the event for a second time just minutes after their first attempt.

"Everyone was frustrated and exhausted as this event is by far the most physically demanding," Jackson recalled. That frustration worsened when the beleaguered team ended up with a slower time on its second run than on its first. "This dealt a huge blow to morale. We all felt that we had blown our chances for first place overall."

The Rangers' fears proved unfounded. The team ended up earning fifth place in the Collection Systems Event out of 40 Division 2 teams. Combined with first-place showings in the

Laboratory, Safety, and KSB Maintenance events, the team returned home to South Mesquite, Texas, as Division 2 champions.

"This team is successful because we are all



Members of the North Texas Rangers include captain Zachary Jackson, coach Rey Davila, Caeleb Butler, Joshua Deaver, and Jeremy Thompson. The team works for the North Texas Municipal Water District in South Mesquite. Kieffer Photography

The Collection Systems event often is considered the most physically demanding. The North Texas Rangers, Division 2 champions representing the Water Environment Association of Texas, had to perform the event twice back-to-back after an equipment failure left them with a subpar finishing time. The team's perseverance was rewarded with a top-10 finish in the Collection Systems event. The team also earned first-place in the Laboratory, Safety, and KSB Maintenance events. Kieffer Photography



competitive, coachable, and very driven individuals, Jackson said. “Every one of us takes the time to study for the tests, cut pipe, practice maneuvers, and brainstorm better ways to do the tasks at hand. All of this has come together to produce a cohesive and hungry team as we see each other giving everything we can to be the best.”

The Rangers’ weakest showing was in the Process Control Event, although their sixth-place finish still ranked them within the top 15% of all Division 2 competitors for the event. In the coming months, the Rangers plan to break out the books and

begin studying with the goal of turning this year’s weakness into next year’s strength, Jackson said.

As the team prepares to make its Division 1 debut next year, the Rangers said they know the competition will only get tougher. But although every competitor has his or her eye on the top prize, at the end of the day, Jackson knows the Operations Challenge community is a close-knit family cheering each other on to victory.

“This industry has some of the most compassionate and energetic individuals we have ever seen,” Jackson said. 🏆

OPERATIONS CHALLENGE 2019 OVERALL SCORES

Division 1			
Place	Team	Member Association	Final Score
1	Elevated Ops	Rocky Mountain Water Environment Association	447.60
2	TRA CReWSers	Water Environment Association of Texas	440.48
3	LA Wrecking Crew	California Water Environment Association	413.88
Division 2			
Place	Team	Member Association	Final Score
1	North Texas Rangers	Water Environment Association of Texas	463.11
2	Doubly Duty	Rocky Mountain Water Environment Association	414.49
3	Lethal Concentration	Water Environment Association of South Carolina	406.55

DEDICATION ON DISPLAY

The New Jersey Water Environment Association (NJWEA) Riptide, who made their national-level Operations Challenge debut this year, were wrapping up their final practices before a regional competition in New York when a motorcycle accident left team member Joe Ciccotelli unable to compete. Luckily, Art Cowan, an Operations Challenge veteran with more than 15 years of experience as a competitor and coach on such NJWEA teams as the Cape Shore Workers and the Jersey Devils, stepped in.

“Art’s been like an ultimate warrior for us. We had a guy go down, and we were faced with a do-or-die situation,” said Riptide coach Tim Fisher. “Art’s been 100% behind us ever since.”

The team’s Operations Challenge rookies — Eric Hansen, Keith Wagner, and Stephen Dalbow — recalled how Cowan’s familiarity with the competition’s merciless pace and complexity was a major help during practices.

With careful guidance from Fisher, the team used equipment and materials found around the team’s home facility in Cape May County, N.J., to train. For example, Cowan built a makeshift rigging to help the team practice the Safety Event and procured a tank to practice the KSB Maintenance Event.

“Art pushes all of us to go faster, and Tim’s always making sure that we stay focused. Between the two of them, we have great mentors on this team,” said Wagner.



Art Cowan, competing with the New Jersey Water Environment Association Riptide, boasts more than 15 years of Operations Challenge experience. Cowan put his experience to use when the Riptide, who made their national level debut this year, unexpectedly lost a member who was injured in a motorcycle accident. Cowan stepped in as a replacement. Cowan’s teammates include Eric Hansen, Keith Wagner, Stephen Dalbow, and coach Tim Fisher.
Kieffer Photography

ANOTHER LATE REPLACEMENT

Gary Burrows, who ultimately coached the Water Environment Association of Ontario (WEAO) Sludge Hogs this year, also shared a story of a vehicle accident changing a team’s roster. Earlier this year, the Sludge Hogs were on the road after a practice session when their car was rear-ended. Their coach sustained injuries that prevented him from working, and Burrows volunteered to take his place.



The TRA CReWSers, representing the Water Environment Association of Texas, are among the most successful teams in Operations Challenge history, with seven overall Division 1 victories. Several of the CReWSers’ competitors thanked the team for their willingness to help out during practices and their useful tips on competition day. The CReWSers include Mark Reeves, captain Quintin Winters, Jacob Burwell, Raudel Juarez, and (not shown) coach Steve Price.
Kieffer Photography

Quintin Winters, captain of the CREWSers, said he often advises newcomers to focus on the competition's mental challenges even more than the physical ones.

"My biggest piece of advice for new teams is to take a breath, go out there, and make your run. Don't worry about the people you're competing against. Go out there and do what you can do, and at the end of the day, you'll be happy with what you get," Winters said.

Behind the scenes of Operations Challenge, supporters exemplify the same dedication as competitors. Pump manufacturer Vaughan Co. Inc. (Montesano, Wash.) has served as a partner-level sponsor for the competition since 2015. Stephanie Vaughan, who works in marketing for the business

founded by her father, first saw Operations Challenge in action at 12 years old.

"I thought it was the neatest, coolest thing I'd ever seen," Vaughan said. "I'm a competitor at heart, and watching these guys do what they do best and coming from all walks of life was really cool to me."

Vaughan sees donating to Operations Challenge as a way to give back to the profession.

"These operators are the backbone of our industry. To support them and to get involved in Operations Challenge was always my goal." 🐙

TESTING TOMORROW'S WATER-SECTOR LEADERS

When Operations Challenge was held for the first time in 1988, the Process Control event was completed with pencils and paper. The Collection Systems Event once involved simply watching a VHS tape showing defective pipes and asking competitors to point out problems.

"The first Ops Challenge was nowhere near as organized as it is now," said Dave Vogel, who in 1988 served as captain of a team from Tampa, Fla. Since then, Vogel has participated for more than 30 years as a coach, judge, and scorekeeper. "We dealt with mismatched equipment, inexperienced judges, and rules created on the fly."

OPERATORS OF THE FUTURE TODAY

Operations Challenge has grown immensely since its first year, from welcoming 22 teams in 1988 to a record-high 47 in 2019. Likewise, each of the events has grown and been updated several times to reflect changing real-world conditions. But the goal of the competition has remained the same: Create operators who are prepared for the future challenges that will affect the water sector.

John Bennett, chair of the Operations Challenge Committee, sees his 26 years of participation in the competition as an investment in preparing the next generation of water professionals.

"When you look at workforce development and Operator of the Future programs, many of them are tailored to Operations Challenge," Bennett said. "We've been developing workforces and creating operators of the future since the competition's inception."

Bennett presided over the Operations Challenge Committee's annual strategic planning meeting



Today's Operations Challenge competitors are subject to strict rules and regulations that govern how each event should be completed, how judges should score performances, and how winners are ultimately chosen. But it wasn't always that way, said Dave Vogel, who has never missed an Operations Challenge competition in its 32-year history. "We dealt with mismatched equipment, inexperienced judges, and rules created on the fly," Vogel said.
Kieffer Photography

earlier this year. For the first time in more than three decades, the committee acknowledged that the growing level of interest from prospective competitors may soon outpace the allotted time, staff, and space of the annual WEFTEC competition. The solution may entail setting a cap on the number of Operations Challenge teams invited to compete each year at WEFTEC or abbreviating event procedures so they can be completed more quickly.

The challenge for the Challenge planners is balancing each event's duration with its difficulty, Bennett said. This dilemma is a familiar one for the

The Safety event, which tasks teams with rescuing an injured co-worker (represented by a mannequin) from the bottom of a confined space, is a daunting one. According to Marlo Davis, who will take over as Safety Event Coordinator for Operations Challenge 2020, the event will only get more challenging. Next year's competitors will need to demonstrate familiarity not only with state-of-the-art technology, but also with fundamental life-saving techniques such as CPR. Kieffer Photography



committee, which routinely changes the rules of one event each year to keep competitors on their toes. The Operations Challenge Committee plans to develop the competition continuously to reflect the changing landscape of the wastewater treatment profession.

FOCUS ON SAFETY

For the 2020 competition, the committee will revamp the Safety Event. The 2019 Safety Event featured one unconscious “victim” — represented

by a mannequin — at the bottom of a confined space. Teams had to open a manhole, use a pre-calibrated detector to sweep the area for hazardous gases, and retrieve the victim following best-practice procedures.

Marlo Davis, who works for the Snyderville Basin Water Reclamation District (Park City, Utah), will take on the role of Safety Event Coordinator. “We’re going to add to the complexity of the Safety event,” Davis said. “Next year’s event will be lifelike.”

Competitors at Operations Challenge 2020 will not only need to demonstrate that they can use a gas detector, but also prepare one. Davis secured a deal with Draeger (Lübeck, Germany) to bring new gas meters and, for the first time, docking stations, to the competition for the next 4 years. Additionally, 3M (Maplewood, Minn.) will supply new tripods for the event.

“Next year’s competitors are going to have to know how to pull the meter out of the docking station, put the parts together, test it before they use it, and then they have to put everything back,” Davis said. “If competitors aren’t used to using docking stations, they should be getting used to them, because that’s technology that’s been moving into the field.”

Potentially unfamiliar equipment won’t be the only new hurdle. Next year’s event will task competitors with rescuing two incapacitated coworkers instead of one. They will also be required to perform CPR, which Davis says will effectively force each team to “lose one member” midway through the event once CPR begins. ⚡

The Women of Wastewater, an all-female team representing the North Carolina Water Environment Association, made their national-level debut at Operations Challenge 2019. Members of the team include Beth Cunningham, Katie Graham, Muriel Steele, and coach and captain Johanna McHone.

Since returning home to Huntersville, N.C., after an exciting first year of competition, the Women of Wastewater already have their sights set on Operations Challenge 2020. Ahead of a regional qualifier competition in November, McHone called the team’s Operations Challenge experience at WEFTEC “a good tool to learn where we still need work as we get ready for state.”





Traveling more than 6,500 km (4,000 mi) from their home facility in Denmark, the Great Danes from water utility Aarhus Vand returned to Operations Challenge for a second chance to test their mettle against their Western Hemisphere counterparts. The Great Danes — Maiken Andersen, Jens Christiansen, Tomas Sejersen, captain Flemming Møller, and (not pictured) coach Frank Davidsen — first competed in Operations Challenge 2017.

They now are working to adapt the Operations Challenge model for next year's International Water Association (London, U.K.) annual meeting. "It will be open to all the countries that would like to go, but it will be with some other equipment and the events will be a little different," explained Andersen. She added that international teams often face difficulty adapting their approaches to U.S. industry standards. The team enthusiastically invited competitors to see how they would fare during a European competition. "Of course, they are always welcome to train with us," Møller said.

LAB, PROCESS CONTROL EVENTS BENEFIT FROM STATE-OF-THE-ART TECHNOLOGY

Operations Challenge has been described as "a professional development activity disguised as a competition." One way Operations Challenge helps to truly develop tomorrow's top water professionals is to incorporate the tools and technologies that are changing how the water sector operates. In 2019, the Laboratory and Process Control events were textbook examples of how the Operations Challenge Committee strives to stay on top of the water sector's latest technological trends.

LABORATORY PRACTICE

Kim Riddell-Furry, 2019–2020 president of the Ohio Water Environment Association (OWEA), this year led efforts to develop a refreshed Laboratory Event. By its very definition, the Laboratory Event exposes competitors — most of whom are wastewater operators — to unfamiliar technologies that make them more versatile water professionals, Riddell-Furry said.

"In many cases, this is the first introduction that these team members have to laboratory equipment and techniques. They aren't just performing a task quicker than they would in the 'real world' — they



The New Jersey Water Environment Association Jersey Devils — Adam Sheick, Emily Zidanic, Jim Collins, Kevin Barstow, and coach Tim Fisher — navigate this year's revamped Laboratory event. Historically, the Lab event has been difficult for many Operations Challenge teams that are primarily composed of water resource recovery facility operators. However, exposure to such common laboratory procedures as measuring total suspended solids and total dissolved solids is a valuable learning experience regardless of your specific job function, described 2019 Laboratory Event Coordinator Kim Riddell-Furry. Kieffer Photography



Paul Dombrowski, 2019 Process Control Event Coordinator, described how updates to a specialized water resource recovery facility simulator developed by Hydromantis (Hamilton, Ontario, Canada) presents new hurdles for Operations Challenge competitors. This year's Process Control competitors managed a virtual facility for 5 days, each with dynamic flow conditions. "Part of the challenge is recognizing that you've made a mistake before it's too late," Dombrowski said. Kieffer Photography

are often performing that task for the first time with techniques that don't come as naturally to them or that they simply aren't used to performing in their routine job functions," she explained.

This year's Laboratory Event involved such technologies as benchtop analyzers, conductivity sensors, vacuum pumps, and analytical balances. Teams were asked to calibrate this equipment and use it to measure total suspended solids and total dissolved solids from wastewater samples. The team also had to collect samples. Then, they used the data alongside hypothetical treatment-train

specifications to infer the overall function of a simulated water resource recovery facility (WRRF).

But the exposure works both ways. Some competitors are laboratory or maintenance personnel, not operators. They learned more about the machinery that keeps WRRFs moving by competing in other events.

"I learned a lot about the operations side of the plant, being a 'laboratory person,' that I didn't know about before," explained Melodi Clark of the OWEA Columbus Outfalls.

PROCESSING POWER

Perhaps the most enlightening event for non-operator competitors was Process Control, which required teams to use an online WRRF simulator, developed by equipment sponsor Hydromantis (Hamilton, Ontario). While the simulator has been a fixture for the Process Control Event for the last 4 years, this year, first-time event coordinator Paul Dombrowski worked with Hydromantis to raise the stakes of an error.

"We changed the format of the simulator to make it more challenging because the teams were doing so good on it in previous years, they were getting nearly perfect scores," Dombrowski said. He serves as chief technologist for Woodard and Curran (Portland, Maine). "We needed to change it up to make the event more interesting and more difficult."

In previous years, competitors had to answer multiple-choice questions that dealt with making the right choices to meet regulatory requirements based on the static operating conditions of a simulated WRRF over 5 days. Immediately after

Operations Challenge exposes participants to technology that is changing the way water resource recovery professionals perform their jobs. The Operations Challenge Committee continually revamps events to keep them challenging from year to year and including new technology will remain a major focus. Kieffer Photography



