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December 2013

Staying power

Terminal Velocity wins record fourth consecutive Operations Challenge

OPS CHALLENGE

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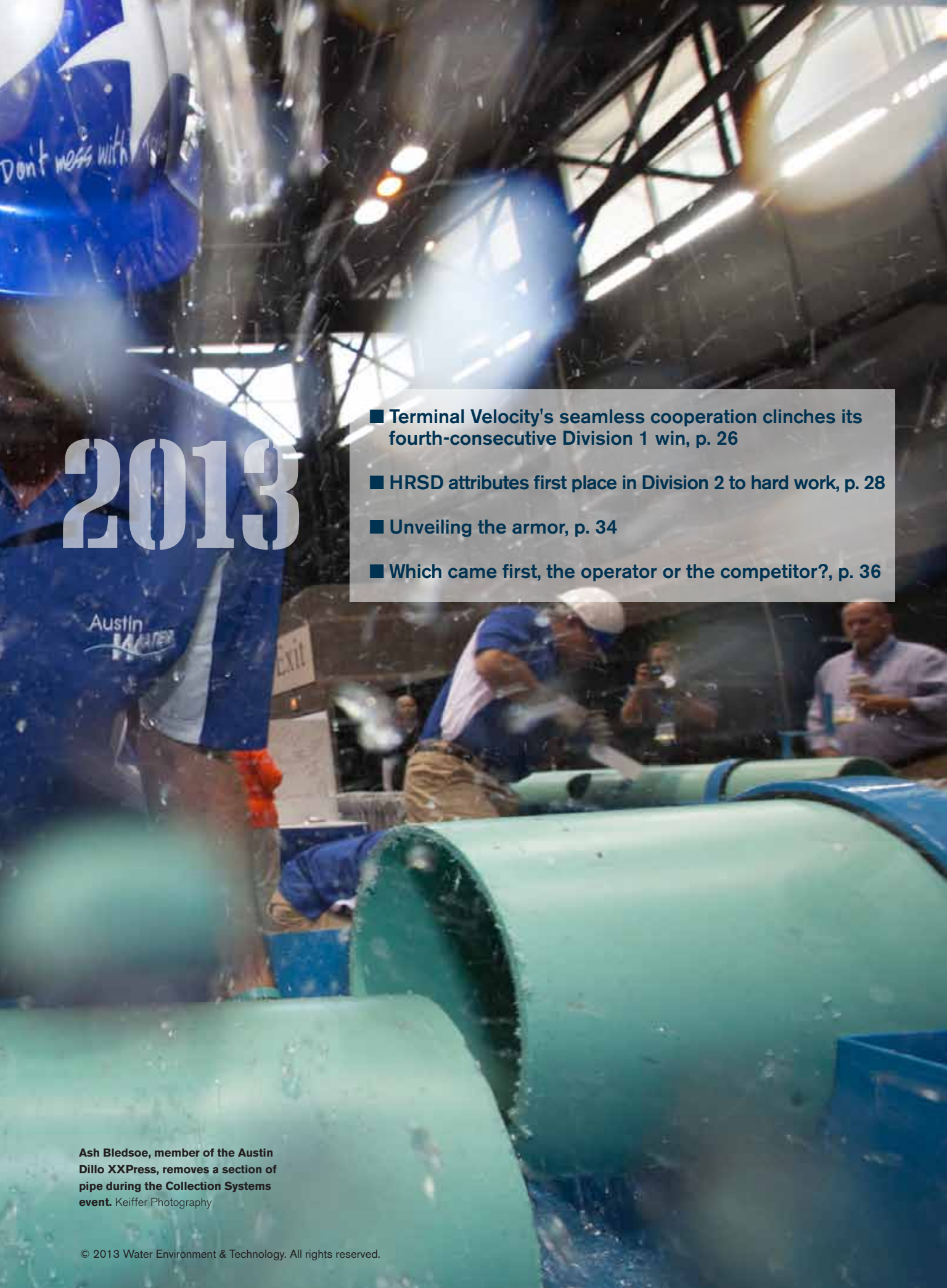

2013

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Ash Bledsoe, member of the Austin Dillo XXPress, removes a section of pipe during the Collection Systems event. Keiffer Photography

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Terminal Velocity team members Jason Truitt, Steve Poe, and Donnie Cagle work together during the Safety event. Teamwork allows Terminal Velocity to succeed when things go wrong during competition. "In the Collections event … we were tightening the saddle when we realized that the repair coupling had slid off the pipe and it would have caused us a major leak. It was our teamwork and cooperation that allowed us not to panic, and ultimately correct the situation," said Cagle, team captain. Keiffer Photography

TERMINAL VELOCITY'S SEAMLESS COOPERATION CLINCHES ITS FOURTH-CONSECUTIVE DIVISION 1 WIN

Spectators gathered five rows deep to watch Operations Challenge 2013 teams compete. The crowd seemed to hold its collective breath as each Division 1 team took its mark. Team members sprang into action, moving from one task to the next with seamless transitions that seemed second-nature.

Achieving fluid motion during competition takes dedication, determination, teamwork, cooperation, and confidence in the hard work preparing for the competition, said Donnie Cagle, captain of the Virginia Water Environment Association team, Terminal Velocity. As defending champions, Terminal Velocity – Cagle, Stephen Motley, Jason Truitt, Steve Poe, and coaches Elijah Smith and Bobby Williams – went on to clinch an unprecedented consecutive fourth win in Division 1.

"We tried to top last year's performance," Cagle said. "Every team seems to up their performance and up the bar a little bit every year, so we just try to push a little harder and get our routines a little cleaner and a little faster."

The Jersey Devils placed second in Division 1 this year, attributing success primarily to teamwork with a splash of positive attitude. "You've got to be able to think fast, you've got to be able to work with your hands, you've got to be overall a team player, good attitude, enthusiastic. There's a lot of things that come into play," said coach Tim Fisher. The New Jersey Water Environment Association team members – captain Art Cowan, Joshua Palumbo, Carl Seabrook, and Kenneth Weurker – compete not only for themselves but also to represent those operators and other wastewater treatment personnel working back at home, he added. "We try to do the best we can and represent them," Fisher added.

Precision and flexibility proved integral to TRA CReWSers success this year. The Texas Water Environment Association team – captain Dale Burrow, Jake Burwell, Raudel Juarez, Steve Price, and coach David Brown – placed third in Division 1. This year, one team member was unable to compete in the national competition, and the coach had to step in as an alternate.

"You choreograph these runs, and you're used to people being in a certain area at certain times. So, you have to slow down or you have to speed up depending on where that person's at. It does throw your time off a little bit, but that's part of the challenge. You just have to work with what you've got," Burrow said. The last-minute change required flexibility with an overall effort to avoid penalties, he said.

– ***Jennifer Fulcher,*** *WE&T*

"I know how hard our team worked and the time we invested … It was awesome sharing the victory with the other Virginia teams in what was a very successful Operation Challenge year for Virginia," Cagle said. Terminal Velocity – Stephen Motley, Cagle, Steve Poe, and Jason Truitt – placed first in Division 1. Keiffer Photography

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"Our success this year can be strongly attributed to the great teamwork and dedication that we had to practicing and preparing ourselves for the events at WEFTEC," said Lacy Burnette, Blue Ridge Brawlers team captain. Team member Stephen Lofaro enters the confined space while team member Wayne Brown monitors his descent during the Safety event. Keiffer Photography

Team HRSD included all new members except for returning competitor and captain Laura Laxa. "They were dedicated, willing to learn, and very positive," she said. "Attitude and a positive outlook is key when creating a new team and working well together and I couldn't have asked for a better group of guys." Pictured are Andrew Keisel, Jason Harbor, and Kevin Hafner. Keiffer Photography

VIRGINIA TEAMS DOMINATE DIVISION 2

Team HRSD attributes first place in Division 2 to hard work

After a successful run on the maintenance event, members of Team HRSD shouted in triumph to a backdrop of audience applause. The triumph continued when the Virginia Water Environment Association team took first in Division 2, joining other association teams – Terminal Velocity, which took first in Division 1 and Blue Ridge Brawlers, which took second in Division 2 – on the podium.

"The team this year has put in a lot of time and effort. As a team we are given time to practice, but all of the team members have put in their own personal time above and beyond what we asked of them," said Laura Laxa, captain of Team HRSD. Team members also included Kevin Hafner, Jason Hobor, Andrew Keisel, and coach Tim Scott. The team's first-place finish was especially impressive given that Laxa was the only returning team member. "It was a hard earned win with three new members, but we did it and look forward to competing in Division 1 next year," she said.

The Blue Ridge Brawlers members – captain Lacy Burnette, Wayne Brown, Stephen Lofaro, Randy Williams, and coach Tommy Shaver – attribute their success to teamwork and dedication to practicing. The team, formed 3 years ago, has competed at WEFTEC® twice. "We do not always qualify for WEFTEC due to the high caliber of the Operations Challenge teams in the state of Virginia," Lofaro said. "Our experience this year was great. We felt like we performed to the best of our abilities, and our second-place finish in Division 2 is a representation of that."

The Sewer Rats, an Illinois Water Environment Association team, became the dark horse of the competition. None of the team members, which included captain John Conry, Josh Filler, Matt Jurjovec, Miguel Vallejo, and coach Ed Staudacher, had competed in Operations Challenge before, and the team had to overcome the hurdles of the intense atmosphere, high level of competition, and detailed events with many opportunities for penalties, Staudacher said.

"After competing and experiencing the intensity of the competition for the first time, it is a great feeling to bring home a few trophies," Staudacher said. "As you learn the events, you also realize there are many opportunities for penalties and the events are judged at a high level of detail. You are always trying to balance speed with perfection, which do not necessarily go together," he added. The team also placed third in the Laboratory and Process Control events.

– ***Jennifer Fulcher,*** *WE&T*

OVERALL

Division 1			
Place	**Team**	**Member Association**	**Final Score**
1	Terminal Velocity	Virginia	456.09
2	Jersey Devils	New Jersey	402.65
3	TRA CReWSers	Texas	379.20
Division 2			
Place	**Team**	**Member Association**	**Final Score**
1	Team HRSD	Virginia	453.99
2	Blue Ridge Brawlers	Virginia	451.90
3	Sewer Rats	Illinois	440.78

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EVENTS & RESULTS

1

PROCESS CONTROL EVENT

During a 25-minute test, Operations Challenge competitors answered a number of multiple choice questions and responded to up to five operational-type scenarios. Each scenario involved four to six questions that required calculations. Teams were allowed to split the test any way they chose among team members. The test allowed teams to demonstrate accumulated knowledge of wastewater treatment and skill in plant process control.

LABORATORY EVENT

Operations Challenge teams were tasked with following all method requirements and aseptic techniques as outlined in *Standard Methods for the Examination of Water and Wastewater*. The event required competitors to perform a biochemical oxygen demand task using YSI (Yellow Springs, Ohio) instrumentation. Teams determined acidity, prepared blank and seed correction series, and calibrated a dissolved-oxygen meter.

PROCESS

Division 1		
Place	**Team**	**Member Association**
1	Terminal Velocity	Virginia
2	Sea Coast Sewer Snakes	New England
3	LA Wrecking Crew	California
Division 2		
Place	**Team**	**Member Association**
1	Force Maine	New England
2	Volatile Solids	Ohio
3	Sewer Rats	Illinois

LABORATORY

Division 1		
Place	**Team**	**Member Association**
1	Aqua Techs	Texas
2	TRA CReWSers	Texas
3	OCWA Jets	Ontario
Division 2		
Place	**Team**	**Member Association**
1	Team HRSD	Virginia
2	Blue Ridge Brawlers	Virginia
3	Sewer Rats	Illinois

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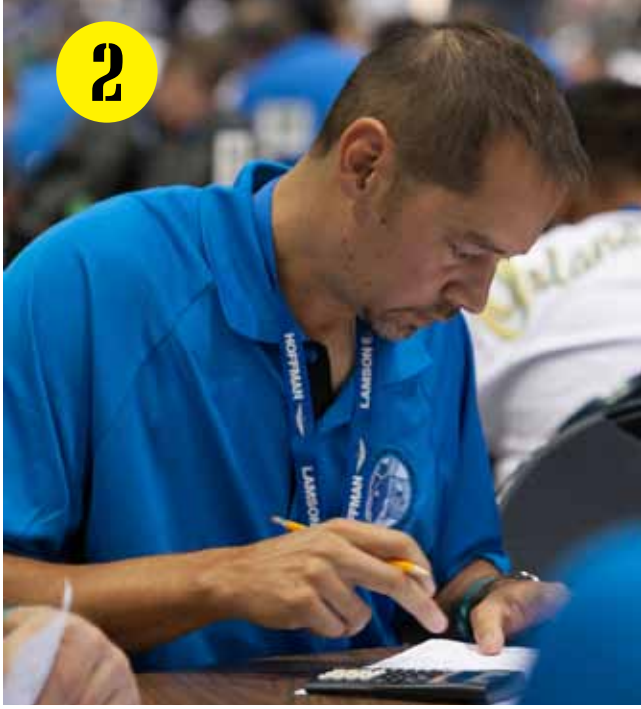

1. Operations Challenge is "a good opportunity for us to meet other operators and people in the industry so we can learn from them," said Gordon Call, Royal Flush team captain. Team members Call, Tyler Barfus, and Jason Stansfield work together during the Collection Systems event. Keiffer Photography

2. Preparing for Operations Challenge benefits both competitors and their employers, explained Sewer Rats team coach Ed Staudacher. "Developing these multiple skill sets is an asset for us as individuals but also benefits our specific units we work with on a day-to-day basis," he said. Team member Miguel Vallejo works on the Process Control event at Operations Challenge 2013. Keiffer Photography

3. "There are a lot of things that we've taken away from Ops Challenge and we've used them in the job," said Dale Burrow, TRA CReWSers captain. New team competitor Raudel Juarez carefully works during the Laboratory event. Keiffer Photography

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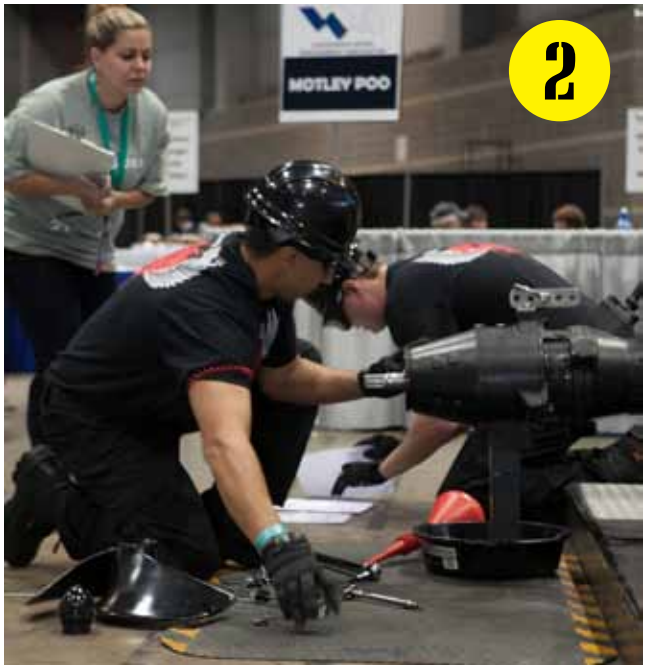
COLLECTION SYSTEMS EVENT

Operations Challenge competitors repaired an in-service polyvinyl chloride (PVC) pipe and completed a quiz identifying six pipe defects. The event simulated connecting a 100-mm (4-in.) lateral sewer to an existing 200-mm (8-in.) sewer pipe.

Teams worked together to drill a hole in a dry PVC pipe, cut portions from both wet and dry pipes, use the dry pipe "repair" to the in-service wet pipe, and secure the connection with clamps. For the quiz, competitors identified images of known pipe defects from the National Association of Sewer Service Companies' (Marriottsville, Md.) Pipeline Assessment Certification Program.

COLLECTIONS

Division 1		
Place	**Team**	**Member Association**
1	OCWA Jets	Ontario
2	Jersey Devils	New Jersey
3	Terminal Velocity	Virginia
Division 2		
Place	**Team**	**Member Association**
1	Team HRSD	Virginia
2	North Bay Riders	California
3	Mixed Liquors	Arkansas



SAFETY

Division 1		
Place	**Team**	**Member Association**
1	Jersey Devils	New Jersey
2	Dillo XXPress	Texas
3	TRA CReWSers	Texas
Division 2		
Place	**Team**	**Member Association**
1	Brown Tide	New York
2	North Bay Riders	California
3	Blue Ridge Brawlers	Virginia

SAFETY EVENT

Teams rescued two "colleagues" played by mannequins. Using a Reid Lifting (Monmouthshire, Wales) gantry and Fibergate Composite Structures (Dallas) training platform, competitors performed a confined space entry to rescue a worker who had collapsed in a manhole. After arriving, another worker had a heart attack, and competitors began conducting two simultaneous rescue efforts.

MAINTENANCE

Division 1		
Place	**Team**	**Member Association**
1	Terminal Velocity	Virginia
2	Dillo XXPress	Texas
3	Jersey Devils	New Jersey
Division 2		
Place	**Team**	**Member Association**
1	Team HRSD	Virginia
2	Wasatch All Stars	Utah
3	Bluer Rdge Brawlers	Virginia

WILO MAINTENANCE EVENT

Competitors responded to separate and simultaneous "moisture reset" failure conditions for a submersible pump and submersible mixer in adjacent, simulated, slide-rail-mounted installations. Teams worked together to safely remove the pump and mixer from service, perform and document required service to repair the units, and place them back into service.

1. Wasatch All Stars team members Dustin Lewis, Clay Marriott, and Jonathan Gubler work together during the Maintenance event. The team placed second in Division 2 for this event. Keiffer Photography

2. "You get here and you realize how big water is, there are teams from Hawaii to Canada to Texas," said Justin Myers, Motley Poo team captain. "It's a really good program." Judge Chelsie Cosby looks over the shoulders of team members Myers and Todd Boulden during the Maintenance event. Keiffer Photography

3. Pumpers team members Ronald Brenny, Chris Lefebvre, and Justin Pratt help a rescue a "colleague" from a confined space. Keiffer Photography

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3
PUMPER

UNVEILING THE ARMOR

Tales behind the Ops Challenge uniforms

Teams sport a vast array of attire and accessories at the national Operations Challenge competition each year. Looks span the gamut from neon colors to military camouflage to comical names and logos to sleek, professional sports jerseys.

This year, one team's ensemble stood out from the rest, the matching gray and blue baseball outfits sported by the Water Environment Association of Utah team, Royal Flush. Winning the 2013 Operations Challenge spirit award for best overall uniform, team members wanted the new uniform to convey the message that they are a team, both at Operations Challenge and on the job, said Gordon Call, team captain.

"We always rotate different team players in and out, so every year we switch uniforms," Call said. Call took inspiration for the design from the softball team coordinated by the team members' employer, North Davis Sewer District (Syracuse, Utah).

Teams are required to have safety glasses, steel-toed shoes, and hard hats that all meet specific American National Standards Institute (Washington, D.C.) ratings, as well as leather gloves. Each event requires competitors to wear different safety accessories, but as long as these requirements are met, teams have free rein for uniform designs.

Some teams change the designs and colors for their uniforms every year and often have a system for when and where new designs are unveiled.

"Our uniform changes every year. The cycle usually starts at WEFTEC® where we bring out a new uniform and hard-hat package," said Donnie Cagle, Virginia Water Environment Association Terminal Velocity team captain. "That combination gets worn at ever regional or state event the following year right up until next year's WEFTEC Operations Challenge … We wear last year's uniform shirt on Monday at WEFTEC and do not even bring out the current year uniform/hard-hat combination until Tuesday morning," he said.

Uniform colors and designs hold special meaning for many teams. Terminal Velocity members wear a purple, green, and black uniform. The green and black come from the Fluid Dynamics team, which placed first in Division 1 in 2003 and 2004, that Cagle competed with in 2003, he said. When forming Terminal Velocity in 2008, Cagle and fellow team member Stephen Motley mixed in the color purple "to give the new team its own identity," Cagle said.

Team names often have a special meaning or long history. Terminal Velocity's name came from a wastewater textbook that described how terminal velocity and fluid dynamics relate to each other in hydraulics. "It was a natural fit for a team name," Cagle said. For Virginia Water Environment Association Team HRSD, the name may not be as conspicuous as other names but it is a source of pride for team members.

"Team HRSD has a long history in the challenge and as a team we decided being able to represent HRSD as our work center is a privilege that we are proud to be a part of," said Laura Laxa, Team HRSD captain. The team won the 2013 spirit award for best hard hat design. Bob Jones, a plant superintendent helped team members create a design for the hard hat, and the shirts were created from that idea, Laxa said. "It's a new challenge every year to come up with a design for the shirts and hard hats, but we do decide as a team on the colors and designs," she added.

Jersey Devils, veteran winner of the best hard hat design spirit award, has commissioned its hard hats from a local artist, Ryan Smyth. The hats depict a storm with the details of trees and debris flying through the air. The artist signs each helmet. "They're art … it's all hand-done," said Tim Fisher, coach of the New Jersey Water Environment Association (NJWEA) team. The helmets are funded by a company sponsor, and the shirts are funded by the NJWEA, Fisher said.

Everything about the Jersey Devils uniforms shows local pride, including the image of the state on the helmet, emblem of the NJWEA on the shirt, and even the name and image of the Jersey Devil, a local legend. All elements were created to give the team its own identify. And next year, the team is planning to redesign the entire ensemble from the shirt to the team bag, Fisher said. This is primarily just because of the normal wear and tear on the uniforms.

"Next year when you see us, we'll have a new look," Fisher said. He compared uniform changes from year to year and between Monday and Tuesday events to professional sports. Often teams have home and away jerseys or redesigns with a "throwback" look. Teams also take ideas from each other to use for future uniforms. "You'll see something different every year that another team will bring along," he said.

– ***Jennifer Fulcher,*** *WE&T*

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WHICH CAME FIRST, THE OPERATOR OR THE COMPETITOR?

Operations Challenge competitors weigh in on the importance of job experience for success

A number of new competitors and new teams stepped up to the plate at the 2013 Operations Challenge Competition. While some feel on-the-job experience is most important, others believe in practice as the key to success in the competition. Regardless where competitors' opinions fall on this spectrum, all have learned and taken something from practice sessions and competition back to their jobs.

ON-THE-JOB EXPERIENCE COMES IN HANDY

The new Chesapeake Water Environment Association team Motley Poo is composed entirely of industry professionals who have been through the Maryland Apprenticeship and Training Program. The competitors' employer, Maryland Environmental Service (MES; Millersville), requires all employees to have a wide range of skills, and the team members believe this background gave their team an edge at the competition.

"Everything we see here, there's a chance we could see any given day at our jobs," said team member Brad Yeakle. "What we learn on the job and in our training is very valuable in our practices and getting here."

"It's a chance for us to go and show the skills we've learned at MES," added team captain Justin Myers. The range of skills and titles members have back home also helped make the team stronger, Myers said. "That wide range of people and all of our experiences, we combined it and learned from each other, it's very helpful," he said.

This was the second year to compete for the Louisiana Water Environment Association LUS Cajuns. Captain Kevin Richard's experience on the job helps him organize the team and facilitate practices, he said.

"In my position, I'm always orchestrating and putting people together to do jobs," Richard said. This helps him be an Operations Challenge team leader and prepare his team both "mentally and physically" for the competition, he said. And at the same time participating in the competition makes the

To support a new team filled with leaders who hope to start their own teams next year, Endangered Feces team coach Brian Carlson encouraged each member to take on a leadership role. "Having Brian let each of us be in charge of one of the events really allowed us to take ownership, so that we could have our alpha skills work for that event," said team member Perry Johnson. Team member Linda Gallant works with the team during the Maintenance event. Keiffer Photography

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Pumpers team members Justin Pratt and Ronald Brenny work to complete the confined space entry. Keiffer Photography

"This is one of the best things going as far as showcasing operators," said Jersey Devils coach Tim Fisher. "Our pride is representing our association and the people we work with." Team members Carl Seabrook, Kenneth Weurker, and Art Cowan work together in the Collection Systems event.
Keiffer Photography

job more interesting and makes all members of the team more conscientious of safety practices, he added.

"The skills learned on the job are the foundation to any Operations Challenge team," said Lacy Burnette, captain of the Virginia Water Environment Association Blue Ridge Brawlers. "Practicing as a team takes knowledge and skills of the team members and directs them to the common goal of completing each event in the most safe, efficient, and error-free way possible."

PRACTICING BECOMES INSTRUMENTAL

Some competitors see the value of practice and consider it to be the most important component to achieve success at Operations Challenge.

"Success in the competition is definitely based off of practice," said Laura Laxa, captain of the Virginia Water Environment Association Team HRSD. "However, skills brought to the challenge help determine what tasks you can accomplish in any event. Our team is a diverse group this year based off of operations, maintenance skills, and laboratory and field testing, which I believe has helped us greatly in being able to depend on each other and really work as a team."

As a 4-year veteran of the competition, Laxa has gained knowledge, confidence, and understanding of different areas in the wastewater field, which have helped her obtain a wastewater operator license, she said.

The Reclamators, a new Ohio Water Environment Association team, noted the importance of experience at larger competitions to get used to crowds and build experience under pressure. "Everything's different when you get in front of people," said Neil Pry, Reclamators team captain. "The more you practice, the better."

COMBINING PRACTICE WITH JOB EXPERIENCE

The Illinois Water Environment Association Sewer Rats, a team consisting of all new competitors, attributes its ability to secure third place in Division 2 to on-the-job experience coupled with dedication to practice.

"The raw skills learned on the job are the base the competitors start with and build on to compete," said team coach Ed Staudacher. "Without the basics, it would be tough to compete and be successful." While the team is well versed in components of the safety, maintenance, and collection events, competitors did not have laboratory experience and needed to build a new skill set to compete, he added.

SUCCESS REQUIRES MANY COMPONENTS

Veteran Division 1 competitors noted that success does not depend on on-the-job experience, practice, or even both. The requirements for success often go beyond these qualities. Teams need to have camaraderie and include members with enthusiasm, drive, composure under pressure, and focus, who are quick and generally athletic.

"I'm not sure one helps any more than the other, I think just being as well-rounded as you can," said Donnie Cagle, Virginia Water Environment Association Terminal Velocity captain. When things go wrong during competition, teams rely on the foundation of teamwork and cooperation to get through and correct the situation, he explained.

Cagle, New Jersey Water Environment Association Jersey Devils coach Tim Fisher, and Water Environment Association of Texas TRA CReWSers captain Dale Burrow all have been on teams with members who have limited on-the-job experience.

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"Success in competition is definitely based off of practice," said Laura Laxa, captain of Team HRSD. "You learn a routine and perfect it. However, skills brought to the challenge help determine what tasks you can accomplish in any event. Our team is a diverse group … which I believe has helped us greatly in being able to depend on each other and really work as a team." Pictured, Laxa and Kevin Hafner work during the Laboratory event. Keiffer Photography

When coupled with veterans, inexperienced competitors with basic mindsets and physical inclinations can be trained quickly through practice and become integral members of top contenders in Division 1.

"We can grow a guy and bring him in," Fisher said.

After taking on a new team member last year, Terminal Velocity was able to quickly bring him up to speed. "We were able to expedite the learning curve," Cagle said.

Burrow noted that when practicing, it's important – especially with a new team member – to choreograph each event and get timing down on each activity. Participation in the competition has helped Burrow build a network of professionals who can provide information on and recommendations for equipment or processes to use. Also, preparing for the Process event has helped him obtain the top license for operators in Texas. "It's completely due to all the studying that we had been doing for the process test," he said.

OPS CHALLENGE IMPROVES SKILLS AND ADVANCES EMPLOYEES

"Practicing for Ops Challenge is great job training," Staudacher said. "Participants need to master all aspects of the competition – safety, equipment maintenance, collections, lab, and process control. The training creates an environment that allows us to gain a hands-on understanding of all facets of our operation."

"I think it's a confidence-builder, a career-expander. It opens your mind," said Jon Yoffee, Nevada Water Environment Association Endangered Feces member. "If you go down in a manhole at my plant, you want me to be around … I have the potential with this knowledge that I've gained in this program to maybe save a life."

"I think it's awesome for ourselves individually … it's great on résumés; it's great on reviews," said Linda Gallant, Endangered Feces team member.

"Operations Challenge has allowed me to see the rest of the wastewater world outside of the lab," Burnette said. "I had no idea all of the moving parts that went into the daily operation of a wastewater plant."

"As an operations shift supervisor, Operations Challenge has given me the ability to identify and solve problems with an activated sludge system," said Wayne Brown, Blue Ridge Brawlers team member. "It has also given me a better understanding of what the other divisions within the wastewater treatment process go through on a daily basis."

Cagle describes his experience as an Operations Challenge competitor as "symbiotic" with his career. "I was a mechanic, and in order to move up in any company you need operations experience. … I got the mechanical experience on the job, but having to study for the process control event and having to do the laboratory, it made me broaden my experience, which in turn helped me get wastewater licenses, which in turn helped me get promotions," Cagle said.

"I'm glad to see new teams get involved," Burrow said. "A lot of the older teams … we realize the importance of bringing up these younger teams." Because the benefits go beyond the actual competition to help operators improve skills at home and gain recognition for their hard work, Burrow hopes that veteran teams continue to help new teams grow and become better, he said.

– ***Jennifer Fulcher,*** *WE&T*

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