

SUMMER
2012

The Official Publication of the Water Environment Association of Utah



DIGESTED news

Celebrating 50 Years of Clean Water

**WEAU Annual
Conference**

Recap

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INSIDE:

Biologicals for FOG pretreatment ■ Collections ■ Professional Wastewater Operator

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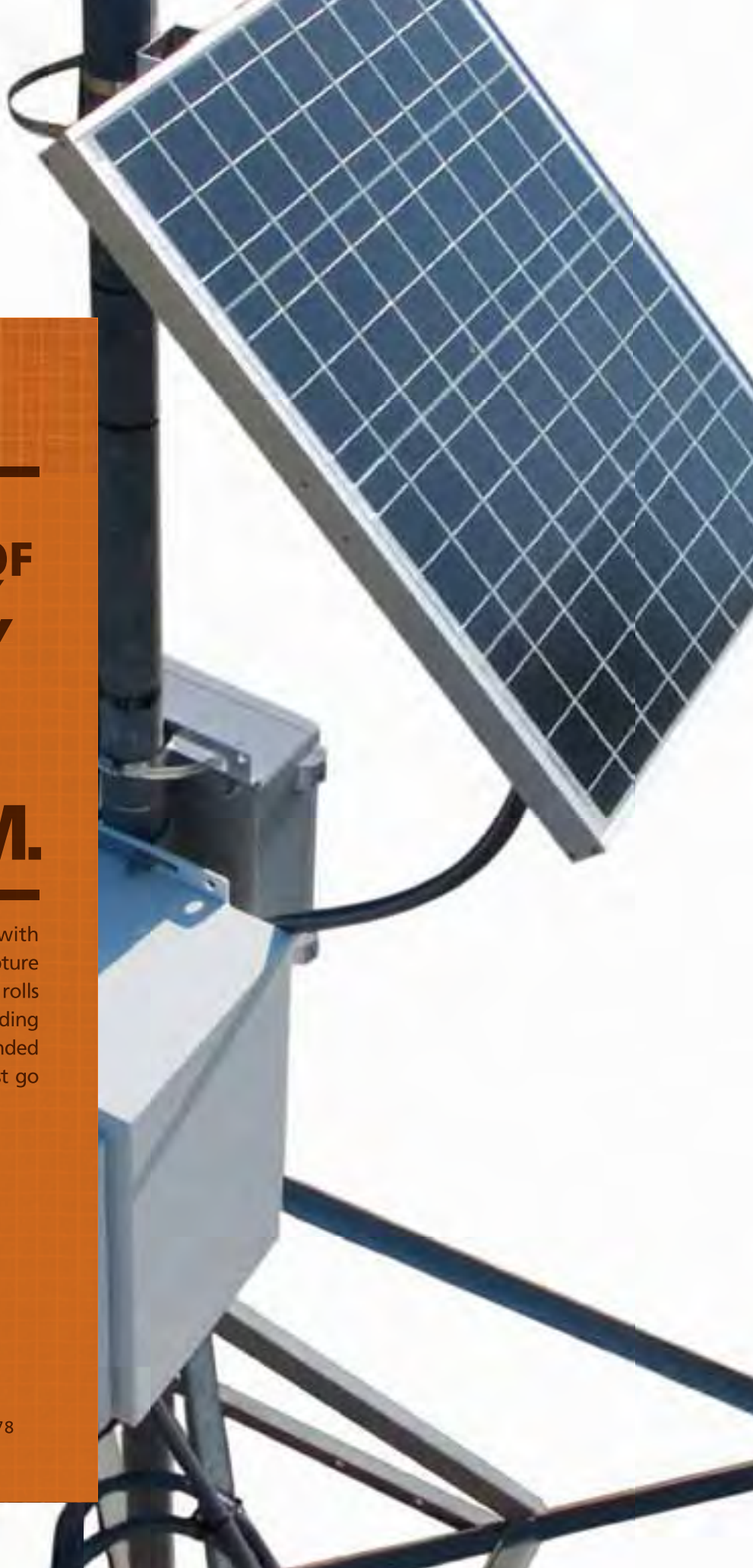
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Message from the Editor

Our Annual Conference was a big hit this year. A record number of vendors and participants were in attendance, not to mention that we had some new Operation Challenge teams that participated. As always there was a lot of recognition given to both individuals and facilities for their hard work and exceptional performance over the years. We look forward to the new leadership we will have under the new WEAU President and Board. I would like to express my gratitude for all of those that volunteer so much of their time to make this organization, and the *Digested News* successful.



Paul Krauth

The terror continues

For those of you that were at the awards banquet you understand the joke, for everyone else, you soon will. All kidding aside, I am honored to be your President this coming year. I am taken back to when and how I joined the association. I was asked by Gordon Champneys to attend a committee meeting, after that I was hooked. The question I would pose to you, how did YOU come to join? It probably was very similar to my experience. The challenge I am issuing to all of you is; find someone who is not currently involved in the association, and ASK them to join us at a training, committee, or conference, etc.

Here are some of the areas we would like to highlight this year

Transparency

The WEAU Board usually meets on the second Tuesday of the month at various locations. In order to keep you (the membership) informed on what the Board is doing, we are posting approved minutes and our current agendas on the website. <http://www.weau.org/who-we-are/meeting-minutes>. All WEAU Board Meetings are always open and available for our membership to attend. Check the website for our meeting locations.

Connecting to you

Getting the word out on our activities has always been somewhat problematic. Currently most of you (hopefully) are

receiving emails from us on upcoming events. We are making a concrete effort to keep the joint DEQ training calendar up to date. <http://www.weau.org/resources/upcoming-seminars>. WEAU also now has a LinkedIn page <http://www.linkedin.com> for the Young Professionals and we encourage all to join (I am on it and I am neither young or professional). We also plan to have a twitter feed in the near future so stay tune.

Splitting the Secretary -Treasurer position

This action will require a bylaw change and approval of the membership. In the interim an *Ad Hoc* Committee of last three serving Secretary/Treasurers met and recommended separating these responsibilities. At the April meeting the Board approved splitting the Secretary/Treasurer (Clint Rogers) into two positions with Clint continuing in the Treasurer role and appointed Giles Demke Secretary *Pro Tempore*.

Increase involvement of Young Professionals

Our current membership has an average age of (oh let us just say most of us remember Jimmy Carter as President). To infuse new vigor into our association, we are planning on expanding our Young Professionals group with more activities, tours and trainings. Again check out the website or linked in pages to see what is happening.

Increase training


The subject that is near and dear to my heart. The Biosolids Collections,

Laboratory, Pretreatment and Professional Wastewater Operator committees are all planning 3-4 specialty trainings this year. We are planning an engineering symposium in the early fall with some nationally known speakers more to follow. The Midyear Conference is once again at the Cultural Center. And as always our Annual Conference is at the Dixie Center in St. George. The Annual Conference could be very different this year. We currently are planning this as a joint conference with the Nevada Water Environment Association. This would mean more talks, more vendors, and more people, more networking and more FUN!

Finally we are going to have some new informal rules;

Members of the 5S (select society of sanitary sludge shovelers) caught NOT wearing their shovels at ANY WEAU function will be requested to make a \$5 contribution to the student scholarship fund. Ask Sherry S., Craig A. and Mike B. if we enforce this!!

I was going to implement a NO TIES policy, but reconsidered for medical reasons. In taking with Susan Cowan she said it would just KILL Kevin!

Well, I was told to be brief (That is a HUGE challenge for ME!) Just wishing everyone a safe and enjoy summer. 



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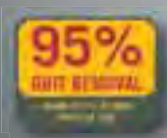
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2012 ANNUAL CONFERENCE AWARD WINNERS



Outstanding Non-Discharging Lagoon
- Ash Creek Special Service District



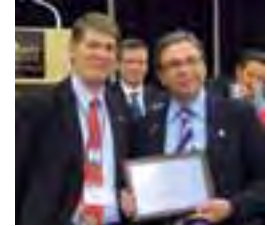
Outstanding Water Reclamation Facility
Under 5 MGD - Blue Bunny



Bedell Award - Dan James



Outstanding Plant Operator Under 5 MGD
- David Boshard, North Fork



Excellence Awards - North Davis



Outstanding Laboratory
- North Davis Sewer District



Outstanding Safety Program
- North Davis Sewer District



Outstanding Water Reclamation Facility
Over 5 MGD - North Davis Sewer District



Outstanding Collection System
Under 5 MGD - Richfield City



Life Membership Recipient
- Rod Ivie



Outstanding Collection System Over 5 MGD
- South Davis Sewer District



Outstanding Pretreatment Program - St. George



WEAU 2012 Select Society Sanitary Sludge Shovelers

Individual Awards:

Outstanding Laboratory Technician	Tyler Weaver - North Davis
Outstanding Supervisor	Lonn Rasmussen - Cottonwood ID
Outstanding Supervisor	Sharon Burton - Central Valley
Outstanding Plant Operator Over 5 MGD	Bryce Southworth - North Davis
Outstanding Plant Operator Under 5 MGD	David Boshard - North Fork
Outstanding Maintenance Specialist	Troy deWolfe - Central Valley
Outstanding Collection Operator Over 5 MGD	Nathan Cloward - Central Davis
Outstanding Collection Operator Under 5 MGD	Terry Shiner - Vernal City
Outstanding Pretreatment Specialist	Marlo Davis - Snyderville
Outstanding Young Professional	Matthew Myers - South

Facility Awards:

Outstanding Safety Program	North Davis Sewer District
Outstanding Pretreatment Program	St. George
Outstanding Water Reclamation Facility Under 5 MGD	Blue Bunny
Outstanding Water Reclamation Facility Over 5 MGD	North Davis Sewer District
Outstanding Laboratory	North Davis Sewer District
Outstanding Discharging Lagoon	Enterprise City
Outstanding Non-Discharging Lagoon	Ash Creek Special Service District
Outstanding Collection System Over 5 MGD	South Davis Sewer District
Outstanding Collection System Under 5 MGD	Richfield City
Excellence Awards	North Davis
Bedell Award	Dan James
Hatfield Award	Leland Myers
25 year Award	Don Morrison and Ken Brand



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Recapping the Keynote Speaker **CHAD HYMAS**

Introduction

If there is one thing that is constant in our personal and professional lives, it is CHANGE. You and I live in an era of unprecedented change and constant challenges. Chad Hymas is an example of how to deal with change and challenges.

On April 3, 2001 Chad's life changed instantaneously when a falling one-ton bale of hay broke his neck leaving him a quadriplegic. Doctors said he would never walk again and that for the rest of his life he would be confined to a wheelchair. But Chad's dreams were NOT paralyzed that day. Likewise, each of us here at WEAU will at times face

challenges that might try to paralyze us. But they do not have to.

Chad is now a world-class wheelchair athlete playing basketball, full contact quad rugby, and he races marathons. Chad set a new world record by wheeling a personal marathon of over 500 miles from Salt Lake City to Las Vegas. Yet, Chad counts as his greatest accomplishment the fact that he remains a devoted husband to his loving wife, Shondell, and proud father to their four children.

His message was powerful and his accomplishments are amazing.

We were blessed to have Chad share with us 'Who Needs Legs, When You Have Wings.'

Biography

At the age of 27, Chad Hymas' life changed when an accident left him a quadriplegic. Since that time Chad has been recognized by the state of Utah as the *Superior Civilian of the Year*. He is the president of his own communications company and an internet marketing company. At 37 years of age, Chad is the youngest ever to receive the CPAE award and be inducted into the National Speaker Hall Of Fame. As a member of the National Speakers Association, Chad has spoken at over 220 events last year. He travels as many as 300,000 miles a year. Last year Chad spoke in five new countries on four continents, to hundreds of professional and civic organizations such as **Wells Fargo, Blue Cross Blue Shield, AT&T, Rainbird, IHC, American Express, Prudential Life, Vast EX, Zion Securities, and others.**

Chad is married and he and his wife are the proud parents of four children. They currently reside in Rush Valley, Utah on a 200-acre wildlife preserve. Chad is a *world-class* wheelchair athlete enjoying basketball, wheelchair rugby, hang-gliding, and snow skiing. In July 2003, Chad set a **World Record** by wheeling a personal marathon of over 500 miles from Salt Lake City to Las Vegas. Chad is also the author of the regionally best-selling book *Soaring to New Heights*. Chad is a member of the elite speakers Hall of Fame and at the age of 37 is the youngest speaker to ever be inducted.

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RICK WARNER

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Rick Warner, P.E. is a member of the 2011-2012 Board of Trustees for the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, Va.

Rick is currently a Senior Engineer for the Washoe County (Nev.) Department of Water Resources. In that role he is responsible for the overall planning, design, and construction for regional drinking water, wastewater, and recycled water projects. He is also active on projects relating to strategic planning and utility consolidation initiatives. Previously at the Department of Water

Resources, Rick managed the engineering and planning division. Prior to that, he was a Chemist/Field Technician for the Truckee Meadows Water Reclamation Facility in Reno, Nev. He also served as a water treatment design course lecturer at the University of Nevada Civil Engineering Department.

A WEF member since 1995, Rick has held multiple leadership and committee roles within WEF. He served on the House of Delegates for three years and is a member of the Utility Management Committee and Reuse Committee. He served on the House of Delegates' Steering Committee for two successive years.

Also an active member of the Nevada Water Environment Association (NWEA), Rick served two times on the NWEA Board and as President from 2001-2002. His other professional affiliations include the American Society of Civil Engineers and the American Water Works Association.

Rick received the Arthur Sidney Bedell award for extraordinary service to his member association and was inducted into the Select Society of Sanitary Sludge Shovelers in 2002.

Rick is a registered professional engineer in the state of Nevada. He received a B.S. and an M.S. in Civil Engineering from the University of Nevada (Reno).

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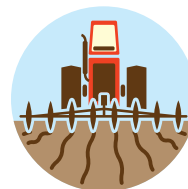
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Under new management

By Ron Clements

Well hello all. As we all know, we are under new management and the professor, or as some of us have been known to refer to him as Ozzy. Paul Krauth is now the President of WEAU. His reign of terror is now in full sweep.

I would also like to thank Gary Hill for all that he has done for our organization. This guy busted his butt all year for all of us and under his direction we had the biggest operations challenge ever in our history. Gary, along with the help of Marlo Davis and the ops challenge committee, I thought, made 2012 the best year ever. Gary is an amazing man and a friend for life. He just has no problem nominating his so-called friends to be the PWO President. It will be my pleasure to put him in a retirement community. I have used this on him many, many times, and while he is of sound mind and body, and a headlock, he will sign over the title of the GTO when it is time, maybe in a week-or-two from now. You know I am kidding Gary, I mean about the job you did but dead serious about the car. In all seriousness Gary, thank you for all you have done and will do in the future. Ya you know what I mean.

This year, anyone who was not able to attend, we had eight teams that competed.



Central Valley Wasted Gas had a repeat year, taking first place overall. Second Place overall belonged to North Davis Royal Flush. Third place was sowed up by Snyderville Basin. All the teams did a great job representing their municipalities, and a huge shout out to Magna Water and Provo City, our two new teams. It was a pleasure to watch their performances especially for a first year. Provo City was awarded the Sportsmanship award voted by the teams they competed against. These two teams have made everyone else somewhat

nervous for next year and the years to come. You will see these two entities put the hurt to the competition very soon. I would also like to thank our judges, our sponsors, and our facility management, the WEAU board and fellow co-workers who stay behind and carry the load in our absence. Our success is because of their commitment to all of us.

Having said that I would like to thank the North Davis Sewer District Board for the opportunities they have supported in our behalf, our Management Staff, Kevin Cowan and Myron Bachman, for their support and the countless hours figuring out how to juggle schedules to accommodate the teams and especially our staff. They are some of the greatest people I have ever had the pleasure to work with. Every year someone works a weekend that they are supposed to have off. Taking multiple swing shifts in a row, sometimes even working two full shifts back to back with no days off in between. That is 24 days without a day off to those who are not familiar with our schedule. I am grateful to be part of such a group of people.

Now that the mushy crap is out of the way, get back to work and wait for my call. I am sure that I will be soliciting help from a lot of you. The reign of terror does not take sludge from anybody, and the word no will not be tolerated.

See you in the funny papers. **DR**



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WEAU Spotlight

by Ron Clements PWO President



I would like to recognize a very special person, not just in our profession, but also in our personal life. Jill Houston has been working for Central Davis Sewer District since 2001. She earned a bachelors' degree in Mechanical Engineering and a Master's degree in Civil Engineering. All this was accomplished while raising five children and never missing a single game or event in their lives.

Jill is an amazing parent that every kid wished that they had, and the grandmother from hell. There is never a time that we talk that she is not doing something with or for the grandkids. Jill loves the outdoors. I think she has been on every trail in the state of Utah on her four-wheeler and she loves to cook. Just recently she ran a relay race with her daughters. She's like the energizer bunny on crack. She is very family driven and if you know her at all, you have felt her warm embrace. She is a hugger. I would not be surprised if she did not hug the checker at the grocery store when she was done shopping. She is not much of an animal lover but she has a fondness for me ... go figure.

Jill has spent a huge portion of her time dedicated to the WEAU serving as President as well as helping out the gifted kids like myself. She has shown what hard work and drive can do for one's success. She is an amazing woman that has dedication and conviction in everything she does. She is a dear friend and I wanted to thank her for everything she has done for me, and everyone else who has had the pleasure to work alongside her. She has a large list of fans and I am one of them. 

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2012 Operator Challenge Teams



1. Cottonwood-“Tux-It-In”

- a. John Lewis-Coach
- b. Mark Lenard
- c. Jeff Murphy
- d. James Herrera
- e. Todd Smart



2. Provo City

- a. Steven Bunker
- b. John Hupworth
- c. Joel Bennett
- d. MaKay Lloyd



3. North Davis-“Gold Flush”

- a. Gordon Call
- b. Mark Mudrow
- c. Jason Stansfield
- d. Jose Zamora



4. Central Weber-“Vortex”

- a. Shawn Wilson-Coach
- b. Kevin Draper
- c. Brody Fluto
- d. Ryan Ewing
- e. Clay Marrett



5. North Davis-“Royal Flush”

- a. Bryce Southworth
- b. Tom Anderson
- c. Mark Young
- d. Brian Lamar



6. Central Valley-“Wasted Gas”

- a. Josh Hunsaker-Coach
- b. Mike Brown
- c. Jeremy Deppe
- d. Becky Tanner
- e. Hadley Gunn



7. Snyderville-“Sewer Saviors”

- a. Cody Snyder
- b. Nick Brown
- c. Dustin Lewis
- d. Dakody Gines



8. Magna-“Manga Flow”

- a. Ed Tucker-Coach
- b. Rob Jaterea
- c. Dallas Henline
- d. Clint Giles
- e. Beau Lamper

WEAU Operations Challenge Results

Team Name	Safety			Laboratory			Maintenance			Collection			Process			Final	
	TIME	SCORE	RANK	TIME	SCORE	RANK	TIME	SCORE	RANK	TIME	SCORE	RANK	TIME	SCORE	RANK	SCORE	RANK
#1 Cottonwood	8.00	60.00	8	10.77	61.88	7	8.18	91.50	6	2.57	83.77	7	-864.04	76.53	6	373.68	7
#2 Provo City	7.48	64.73	7	11.00	60.00	8	15.00	60.00	8	4.02	60.00	8	-384.29	60.00	8	304.73	8
#3 North Davis Gold	3.70	99.09	2	8.73	78.53	4	6.34	100.00	1	2.30	88.20	6	-915.48	78.30	5	444.12	5
#4 Central Weber	4.08	95.64	3	10.08	67.51	6	7.12	96.40	4	1.58	100.00	1	-1263.28	90.29	2	449.83	4
#5 North Davis Blue	6.25	75.91	6	6.53	96.49	2	7.07	96.63	2	2.08	91.80	4	-1545.08	100.00	1	460.83	2
#6 Central Valley	4.78	89.27	5	6.10	100.00	1	7.47	94.78	5	1.93	94.26	3	-1226.35	89.02	3	467.33	1
#7 Snyderville Basin	3.60	100.00	1	8.07	83.92	3	7.10	96.49	3	1.65	98.85	2	-774.37	73.44	7	452.70	3
#8 Magna	4.28	93.82	4	9.97	68.41	5	8.23	91.27	7	2.13	90.98	5	-1210.00	88.45	4	432.93	6



WEAU 2012 Annual Conference Group Team



WEAU 2012 Annual Conference Judges



WEAU 2012 Collection Event



WEAU 2012 Collection Event



WEAU 2012 Lab Event



WEAU 2012 Pump Event



WEAU 2012 Pump Event



WEAU 2012 Pump Event



WEAU 2012 Pump Event



WEAU 2012 Safety Event



WEAU 2012 Safety Event



WEAU 2012 Take Down



WEAU 2012 Written Tests



QUIZ

- The seal water pressure in a water lubricated pump should be at least _____ the maximum discharged pressure.
 - 10 PSI less than
 - 10 PSI more than
 - 5 PSI less than
 - 5 PSI more than
- The formation and collapse of a gas pocket or bubble on the blade of a pump impeller is known as which of the following?
 - Turbulence
 - Centrifugation
 - Sedimentation
 - Cavitation
- May be found in both a rectangular or circular clarifier and is designed to break if the stress becomes too much.
 - Chain
 - Hopper
 - Gear
 - Shear Pin
- The discharge pressure gauge at a pump shows 35.2 PSI. What is the equivalent head?
 - 15.3 feet
 - 517 feet
 - 81.1 feet
 - 35.2 feet
- How much concrete do you need to fill a 20' x 15' pad that is 6" deep?
 - 66.7 yards
 - 16.7 yards
 - 1.9 yards
 - 5.6 yards
- Calculate the force against a 48" diameter plug when the test pressure is 7 PSI.
 - 16,128 lbs
 - 12,660 lbs
 - 1,808 lbs
 - 105,600 lbs
- PVC stands for _____.
 - Polymer value configuration
 - Pressure vacuum container
 - Polyvinyl chloride
 - Pressure value control
- What condition or situation might require an operator to chlorinate the RAS?
 - The presence of excessive fillmentores organisms
 - Excessive pathogens in RAS
 - High suspended solids in the effluent
 - Excessive odors at the RAS box.
- Which part of the centrifugal pump is installed to increase efficiency and prevent internal liquid leakage?
 - Mechanical seal
 - Stuffing box bushing
 - Weir ring
 - Sleeves
- The mechanism used to move settled sludge or floating materials in a rectangular clarifier or DAF unit is often referred to as which of the following?
 - flights
 - planes
 - puddles
 - eductors

ANSWER KEY
 1. C 5 PSI more than
 2. D CAVITATION
 3. D shear pin
 4. C 81.1 feet
 5. D 5.6 yards
 6. B 12,660 lbs
 7. C polyvinyl chloride
 8. A the presence of excessive fillmentores organisms
 9. C weir ring
 10. A flights

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Westfalia

SCREENINGS & HEADWORKS

M2 RENEWABLES

Pretreatment, Primary Clarification

DUMPSTERVEYOR

Solids Container Handling Systems

HUBER TECHNOLOGY

Screens (Step, Perforated, Wedge Wire, Bar Rake, Septage, and for MBRs), Wash Press and Grit Washer

JDV

Shaftless Screw Conveyors

LAKESIDE

Screens (Perforated Plate, Bar, Septage, and for MBRs), Wash Press, Grit Removal and Grit Washers

PLASTI-FAB

FRP Parshall Flumes, Weirs, Buildings, Slide Gates, Stop Logs

POLYCHEM

Grit Removal System (Chain & Flight)

WESTECH

Screens (Perforated Plate, Bar, Step, Sludge), Grit Removal, Grit Classifier

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KOMAX

Static Mixers

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MTS

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NEUROS

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AQUA TURBO

Surface Mixers and Aerators

UNIVERSAL BLOWER

Positive Displacement Blower Package System

TREATMENT PROCESSES

AZZURO

Biological Odor Control Systems

BIOWORKS

Lagoon-based Aeration System

ENVIROQUIP

"Kubota" Membrane Bioreactor "SymBio BNR" Aerobic Digestion

LAKESIDE

BNR Oxidation Ditches (Brush Rotors)

WESTECH

Membrane Bioreactor (Flat Sheet)
Oxidation Ditch (Vertical Turbine Aeration),
Motorized Trickling Filter Rotary Distributor,
Hydraulic Trickling Filter Rotary Distributor,
Rotating Drum Aeration Process,
Slow Speed Mixing with Fine Bubble Aeration

CLARIFICATION

M2 RENEWABLES

Alternative Primary Clarification

LAKESIDE

Secondary Clarifiers

NEFCO

FRP Stamford Density Current Baffles and Launder Covers

POLYCHEM

Rectangular Non-Metallic Chain & Flight Clarifiers

POLYTECH

Rotary Pipe & Helical Scum Skimmers

WESTECH

Primary and Secondary Circular Clarifiers

FILTRATION

AQUA TURBO

Disk Filter

M2 RENEWABLES

Continuous Up Flow Sand Filter, Phosphorous and Metals Removal, Filtration and Denitrification

SEVERN TRENT

De-nitrifying Effluent Filter

WESTECH

Continuous Up Flow/Down Flow Sand Filter

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DIGESTION

AEROMIX

Coarse Bubble Diffusers

MTS

Aqua Turbo

WESTECH

Mechanical Mixing, Digester Covers & Digester Heating Systems

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BCR ENVIRONMENTAL

Class A Biosolids Treatment

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ENPRO

Dry Chemical Feed Systems

FENTON

Class "A" Sludge Drying Process

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Liquid and Dry Polymer Blending Systems

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Screw Thickener, Screw Press, Disc Thickener and Belt Dryer

WESTFALIA

Centrifuges

PUMPING EQUIPMENT

BOERGER

Rotary Lobe Pump and Grinder (Scum, Grease and Sludge)

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Screw Pumps

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Double Disc Sludge/Scum Pump

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Biologicals for FOG Pretreatment: TO DOSE OR NOT TO DOSE?

By Michael Boschitsch

The debate of whether to allow the use of biologicals at source to deal with FOG (fats, oils, and grease) rages on. It does so in large part, because of an inadequate understanding of both the biochemistry involved as well as the statutes around it. A little knowledge is a dangerous thing and developing *effective* FOG statutes requires more than just a little dangerous knowledge.

First let's understand what we mean by biologicals. For FOG pretreatment, these are typically divided into two main categories: enzymes and bacteria. Enzymes are not a live "biological" per se, in fact they are typically a protein generated by live organisms and act as a catalyst for other reactions. For instance when we chew food, our saliva contains enzymes that break down the food for easier digestion. For FOG control,

lipase, the enzyme of choice, breaks down fat molecules into their smaller components of glycerol and fatty acid for consumption by bacteria. Used alone, however, enzymes only do half the job. Because they are not live organisms, they don't actually consume FOG – they simply break it down or emulsify it. Emulsification is when the fat that goes into the drains is converted into tiny little droplets that essentially become one with the water that carries it away. What this means in food service is that grease traps that rely on the *separation* of fat from water become ineffective as the emulsified fat passes straight through the trap and into the city sewers where dilution allows the fat to recombine. As far as municipal operations are concerned this is not the best solution as FOG producers simply pass the problem along to them.

Bacteria, in contrast, are living organisms. Bacteria secrete their own enzymes to break down the fat molecule into bite size pieces, and the bacteria then complete the job by consuming the glycerol and fatty acids leaving behind mainly water and minute amounts of CO₂. Don't worry about the CO₂ though, because amounts are negligible compared to the impact of pumping out the drains and sewers, disposal and processing of the effluent, periodic overflows into storm drains and disposal of fat into landfill.

But not all strains of bacteria are created equal. Bacteria can be broken down into spore formers and non-spore formers. Spore formers protect themselves in harsh environments by surrounding themselves with a protective outer layer or spore. If conditions become uncomfortable, such as high or low pH, high temperature,

turbulence, etc. the spore comes on and the bacteria hunkers down and weathers out the storm. The downside is that in its spore state, this bacteria doesn't consume but becomes dormant until conditions become more civilized. Spore formers are the bacteria of choice in digestion ponds at waste water treatment facilities where conditions are pH balanced, with average temperatures and little turbulence.

In a dynamic system such as a kitchen or food service establishment, however, conditions are unfavorable throughout the day. Discharges from sinks, dishwashers and floor drains tend to be caustic, hot, surfactant laden water with significant turbulence as the water runs through the pipes. Once the spore is formed, it can take up to 36 hours before the bacteria becomes active again and until then, no fat is being consumed and many of the bacteria are simply washed away with little effect other than adding to the biomass that already exists within the sewer system. As a result, spore forming bacterial systems are often dosed at night. Without any actual water flow through the drains, however, spore formers can't move very far and are slow to colonize before being washed away again by the next day's activities.

Non-spore formers, as the name would suggest, don't form spores. They tend to be hardier and are active within a larger range of environments and unless frozen or dead, they exist in a perpetually active state. What this means is that as soon as they are introduced into a drain or sewer system, they go to work right away, consuming many times their volume in FOG. They too, will die and add to the biomass, but not before converting significantly more FOG into water. As a result, for dynamic systems as typically found in food service environments and even municipal sewer systems, non spore forming bacteria are most effective.

Another area of confusion is that of the statutes themselves. Many jurisdictions state that no additives may be introduced to the grease trap or may be used in order to pass grease through the grease trap. This makes perfect sense, in that a grease trap is supposed to trap grease and prevent it from entering into the sewer system. An enzyme, as an emulsifying agent does exactly that – moves the FOG through the grease trap and beyond. Adding bacteria to a grease trap is not helpful in that the trap is a very poor environment for bugs to colonize or be effective. Instead, they

simply add to the biomass. Where bacteria are useful, is in keeping the drain lines clean leading up to and away from the grease trap. Without proper maintenance, a grease trap will allow FOG to pass through at the best of times and bacteria go a long way to mitigating the impact of FOG that moves past the grease trap.

Unfortunately, many inspectors and regulators read the restriction to mean that the use of any biological in the drain system is 100% forbidden, which is very

rarely the case. Disallowing all biologicals because some applications are harmful is like disallowing all vehicles on public roads in order to reduce traffic accidents. The severity of the impact of FOG on public infrastructure and funds, demands that municipalities explore every proven means available to combat this silent demon. As with any effective solution, we simply have to use the right tool for the job and to do that we must educate ourselves as to what tools there are and how they work. [DN](#)

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Annual Region 8 Pretreatment Association Conference

DEADWOOD, SOUTH DAKOTA

By Jeff Macfarlane

In addition to the training seminars and workshops conducted at locations in Utah the Pretreatment Committee, coordinators, managers, and state regulators involved in Industrial Pretreatment also attend an annual conference sponsored and conducted by the Region 8 Pretreatment Association (R8PA), chaired this year by Jennifer Robinson of the Utah Division of Water Quality. This year there were over 130 registered attendees from Region 8 and a few from outside the region.

The Conference was held in Deadwood, South Dakota at the beautiful

Lodge at Deadwood hotel. It was a 2½-day conference with a break on the second day for sightseeing, networking, and enjoying local activities. It was opened by the keynote speaker, Park Ranger Blaine Kortemeyer, who told the history of the Black Hills and the sculpting of the four presidents at Mount Rushmore by sculptor Gutzon Borglum. It was eventually completed by his son, Lincoln Borglum.

Presentations at the conference varied from how to calculate local limits, to things to look for in an audit, to what to do with radioactive material from a water treatment



plant. Mike Luers of Snyderville Basin gave a very informative and interesting presentation on endocrine disruptors and the effect they are having on fish and other organisms. Paul Worlie of Liquid Environmental Solutions explained both the environmental and economic benefit of adding grease trap waste directly to anaerobic digesters. We learned how dental amalgam traps work and what to look for when doing inspections of dental offices.

All in all the conference was a very valuable source of information on issues we face in protecting the POTWs and personnel where we work. The Utah Industrial Pretreatment Committee of the WEAU supports the R8PA and will be helping with planning and conducting the conference next year.

The Black Hills and northeastern Wyoming was a beautiful location and the sightseeing was spectacular. Mount Rushmore, Crazy Horse, Bear Country, numerous caves and Devil's Tower are just some of the many sights to be enjoyed in the area. Not to mention the Chubby Chipmunk. Not much to look at but the truffles are truly awesome. [DIA](#)



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U of U Design Team to compete at WEFTEC

By Gary Vance – Student Activities Chair

Congratulations to the University of Utah for winning this year's WEAU Student Design Competition. It was a very difficult decision for the judges as Utah State University also fielded an excellent team. U of U is now headed to WEFTEC to compete in the national student design competition.

Both teams tackled a very difficult, two-part problem statement: Reduce effluent total phosphorus to 1.0 mg/L or less at Central Valley Water Reclamation Facility and minimize struvite formation in piping, pumps, and belt filter press equipment within the solids processing trains. The U of U

team looked at many alternatives including alum addition, enhanced biological phosphorus removal, 'controlled' struvite precipitation, and a redundant sludge conveyance system to allow for scheduled cleaning of existing glass-lined pipes.

The University of Utah team includes three graduate students: Mike Moe, Pei Huang, and Mitch Hogsett. They are to be commended for their efforts. As very busy graduate students, it was difficult for them to find time for the design project. There were long nights and weekends devoted to the study of wastewater. The student team worked closely with U of U professor Dr. Ramesh Goel and their team liaison from WEAU, Tania Datta (CH2M-Hill).

The USU and U of U teams originally presented to a panel of judges on April 6, 2012. This year's judging panel included Tom Holstrom (CVWRF), Jeff Wiest (Waterford Systems), Lance Wood (Central Weber), Jim Schwing (CH2M HILL) and Jim Goodley (J-U-B Engineers). Special thanks to CVWRF for hosting the event and being a resource to the students throughout this process with plant tours, data sharing, and question answering. The judges selected U of U as the winning team and recommended they present at the WEAU annual conference. Those who attended the presentation in St. George were impressed by the design concepts presented, conclusions made, and the overall quality of the presentation. The judges and audience members suggested a number of improvements and it was decided they would have one more final presentation on May 11, at CVWRF. At this presentation, the judges were thoroughly impressed by the improved technical approach and presentation skills and voted unanimously to recommend to the Board that they be sent to WEFTEC to represent WEAU in the national competition.

WEAU congratulates and wishes the best of luck for the U of U design team as they compete at WEFTEC in New Orleans in September. Hopefully they can meet or improve upon last year's second place finish by the USU design team. [DN](#)

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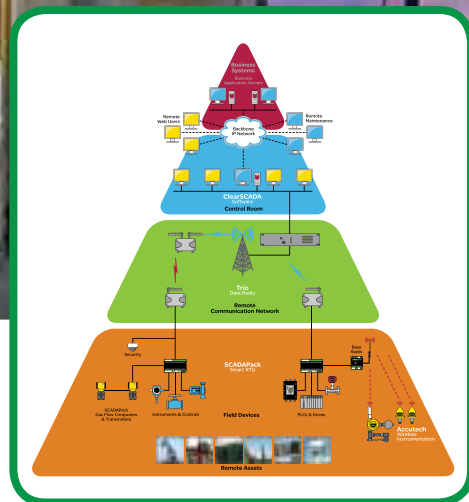
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WEAU Treatment Training

All classes will be held at CVWRF from 1:15 pm until 3:15 pm. The dates are on Wednesdays. There is no charge for the class. Attendees are responsible for their own manuals. We will be utilizing

volume 1 of the Ken Kerri manuals for grades 1 and 2 and Advanced Waste Treatment for grades 3 and 4. Please bring a calculator, paper and pencil. Please have the corresponding chapter read for the

week attending. Class is designed to help operators prepare for their exam. The schedule outline is subject to change. Please refer to the training calendar for the most up to date schedule. [DM](#)

Grades 1 and 2

VOLUME 1

WEEK	DATE	COURSE DESCRIPTION
1	July 18, 2012	Chapters 1 and 2—The operator and treatment
2	August 1, 2012	Chapter 3—Treatment Facilities
3	August 15, 2012	Chapter 4—Racks, screens, comminutors, grit
4	August 29, 2012	Chapter 5—Sedimentation and floatation
5	September 12, 2012	Chapter 6 and 7—Trickling filters and RBCs
6	September 26, 2012	Chapter 8—Activated sludge
7	October 17, 2012	Chapter 9—Stabilization Ponds
8	October 31, 2012	Chapter 10—Disinfection
9	November 21, 2012	Review

Grades 3 and 4

ADVANCED WASTE TREATMENT (previously known as volume III)

WEEK	DATE	COURSE DESCRIPTION
1	July 25, 2012	Chapter 1—odor control
2	August 8, 2012	Chapter 2—Activated Sludge
3	August 22, 2012	Chapter 3—Residual Solids Management
4	September 5, 2012	Chapter 4—Solids Removal (secondary)
5	September 19, 2012	Chapter 5—phosphorous removal
6	October 10, 2012	Chapter 6—Nitrogen Removal
7	October 24, 2012	Chapter 7—Enhanced Biological Control
8	November 7, 2012	Chapter 8—Reclamation and re-use
9	November 14, 2012	Chapter 9—Instrumentation
10	November 28, 2012	Review

 Exam date – December 3, 2012



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2012 Kickoff Meeting Recap

May 5, 2012

WEAU Tentative Goals and Events for the coming year

- More training
- Combined Annual Conference next year with Nevada
- Push to use the website more
- August 3, Family Night at a Bees Game, sponsored by YP



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We must all work together to keep our water clean and healthy. To do that, we each need to learn to value water. We need to invest our time and energy in protecting our natural resources and infrastructure. And we need to come together to share an important message:

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WATER'S WORTH...



**YOUR
RESPECT**

Communities are Built on Water

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**YOUR
EFFORT**

Clean Water is Everyone's Responsibility

We all consume water and create waste. In fact, the average American uses 176 gallons of water a day¹. Every drop that enters your home or business is treated and discharged back into the water cycle. Water is a finite resource; it must be managed well. Everybody uses water. Everybody is responsible for it.



**YOUR
HEALTH**

Water IS Life

Up to 60% of the human body is water, the brain is 70% water, and the lungs are nearly 90% water. We are made of water and we can't survive without it. But the water we need also must be clean. Water and wastewater treatment has changed the lives of millions of Americans—all but eliminating fatal diseases like cholera, typhoid, dysentery, and hepatitis. America has some of the cleanest, safest drinking water in the world and it must be preserved. Your life depends on it.



**YOUR
FUTURE**

Dealing with an Aging Infrastructure

Turning on the tap or flushing the toilet is as simple as turning a knob or pushing a handle. What you don't see is the vast infrastructure — 800,000 miles of water pipe and 600,000 miles of sewer line² — that takes over from there. These systems have worked silently for years, in some cases more than a century, without major interruptions, but now they need your attention. Your investment is needed to keep infrastructure functional for current and future generations.



**OUR
PASSION**

Finding Solutions for the 21st Century

The water sector constantly seeks innovative solutions to community and water system challenges. Undertaking efforts, such as reclaiming water for reuse and generating energy from wastewater, enable the sector to adapt to our changing environment and be good caretakers of our water resources. Water professionals have dedicated their careers to providing clean and safe water to protect everyone's health, planet, and quality of life. Water is our passion.

YOU NEED WATER. WATER NEEDS YOU.

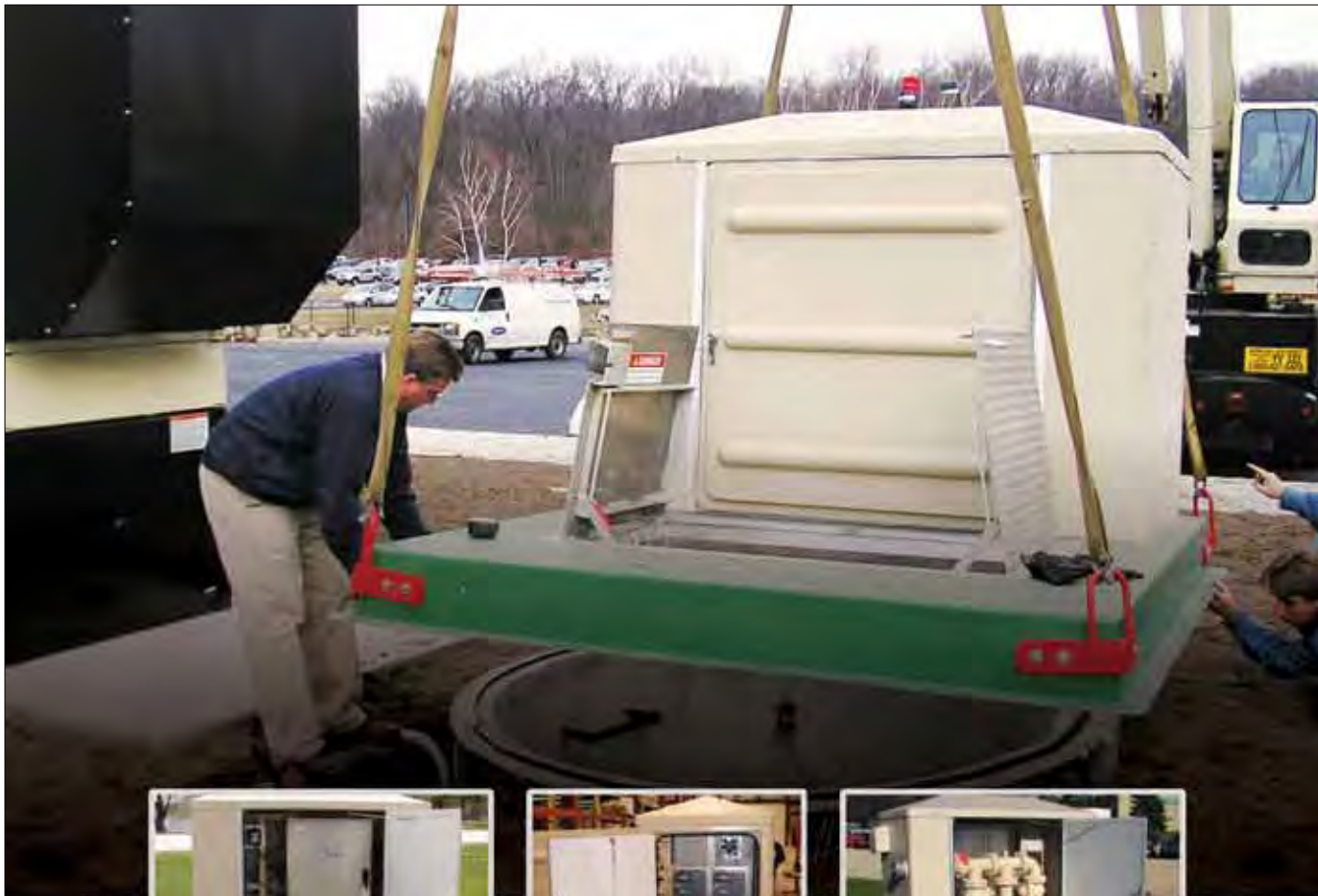
We all have something at stake when it comes to water. Each of us also has a valuable contribution to make. But first we need to understand the issues. That's where WATER'S WORTH IT comes in.

WATER'S WORTH IT is a messaging campaign that will help answer the questions about how our actions, attitudes, and the things we most value are so closely connected with water. And it will help you to be as good to water as water's been to you. To learn more, visit www.WatersWorthIt.org.



¹ United Nations Development Programme, Human Development Report 2006 (March 2006), p. 34. <http://hdr.undp.org/en/reports/global/hdr2006/>

² General Accounting Office, Water Infrastructure: Comprehensive Asset Management Has Potential to Help Utilities Better Identify Needs and Plan Future Investments (March 2004), p. 14. <http://www.gao.gov/new.items/d04461.pdf>



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