The Central Arizona Project (CAP) is a 336 mile aqueduct that brings Colorado River water from Lake Havasu down to Tucson all in one canal. It takes 500 employees, 15 pumping plants, and 11 underground pipelines to deliver 1.6 million acre feet of water to its clients annually.

And at the February 6 Arizona ASSE luncheon, Darin Perkins took the time to discuss the safety concerns for all of those employees that he oversees for CAP.

The various challenges Perkins listed were: diving, confined spaces, fall protection, noise, environmental issues, housekeeping, high voltage work, lockout/tagout. “We deal with most every standard,” Perkins said.

Maintenance is a huge challenge. The CAP deals with sediment collecting in front of forebays creating a force behind pumps that can bend giant metal grates. Weeds need to be harvested to keep the dam clear. And general upkeep after 30 years of wear and tear.

From its inception in 1985 to 2003, the maintenance policy was reactive – when something broke they fixed it. That was replaced with a preventive maintenance program where everything is fixed and serviced according to its expected lifespan, before it breaks. There are thousands of monitors along the canal watching the efficiency of pump and status of the lining.

Perkins said this and the other following challenges have greatly reduced its recordable injuries and DART (days away, restricted, transferred cases) down from 40 recordable injuries a year to the fewest they’ve ever had.

Security along the entire open canal is an issue that they address with fences, cameras at fixed structures and armed officers that patrol its length and report issues like canal breeches, fences cut where kids break in to swim and objects dumped in the canal.

“We even have environmental issues.”

Continued on Page 6
Supervisor Tools to Assess Workers

In the January ASSE joint session, Jenny Mandeville, an ADOSH Consultation Trainer spoke about how manager training has gone to the wayside while their responsibilities have become more important.

Her presentation titled “Supervisor Assessment of Worker Readiness” ostensibly addressed tools for supervisors to monitor that employees are safe in the face of common circumstances: tiredness, substance abuse, and injuries.

The main point Mandeville tried to drive home was too often, the manager responsible for other employees safety is just the most senior employee and doesn’t have necessary skills. She also referenced that the journeyman/apprentice relationship where a worker stays in a job for a long time and is mentored by a more experienced supervisor happens less frequently.

The result is foremen may not have the necessary characteristics like: empathy, patience, organization, wisdom...; and haven’t developed supervisory skills: exemplar, guidance, trainer, communicator, inspiration, discipline, assessor, and evaluator.

“We’ve thrown them under the bus because we haven’t given them these skills, but we require them to have these skills,” Mandeville said. “(A supervisor must) know that if you have a new baby, nobody is getting any sleep, so don’t put them at height today.”

An organization needs effective supervisors, and the supervisors need the following skills, because anybody who manages other employees is responsible, even liable, to ensure the work is done in a safe manner.

Supervisors need to document a baseline of normal behavior for each person, and then document any changes to help catch problems early and keep an account that shows due diligence. Mandeville compared this to just like a hearing conservation program, and said to pick a day of excellent performance to both praise the worker and establish their performance. “Tell them, ‘this is the day I’m going to measure your performance against, this was a good day’ and then do that,” Mandeville said.

Self-assessment is another tool, one that teaches workers how to monitor their own performance. Ask employees to assess themselves based on your criteria.

Chose supervisors who are good communicators that are able to coach employees when necessary. Mandeville provides supervisor training through the ADOSH Education and Training that gives in depth instruction on addressing fatigue, substance abuse and effective employee training methods. Look for the class schedule in the ADOSH Advocate newsletter.

Training Comprehension signs to look for:
- Understand safety rules and policies
- Demonstrates knowledge verbally and actively
- Applies the rule to themselves
- Protects themselves and others
- Can consistently incorporate training principles
- Has developed self-discipline

Substance Abuse Warning Signs:
- Unexplained drop in work efficiency
- Frequent tardiness
- Excessive sick days
- Sudden use of vacation time
- Accidents, near misses, and errors
- Frustration
- Impulsiveness

Hazardous Situations:
- Working at height
- Working with equipment, tools, machinery
- Chemicals
- Confined spaces
- Electrical work
- Hazardous atmospheres
- Driving

Effects on Performance
- Fatigue
- Illnesses (Acute/Chronic)
- Drugs (Over the counter/Prescription/Illegal)
- Alcohol
- Injuries

Behavioral conditions to consider are:
- Focus/distraction
- Attitude toward others
- Resistance to assignment
- Concentration
- Appropriate responses
- PTSD, ADHD, OCD, Autism spectrum

Continued on Page 6
Six Myths of OSHA Inspections

Charles Keller, a partner with Snell & Wilmer, whose primary practice is in employment law gave his presentation “Confronting Myths of the OSHA Inspection Process” at the January 9 joint session of the general and construction Arizona ASSE chapter.

Keller busted 6 myths that he’s seen his clients believe in over a decade of representing them in OSHA and ADOSH concerns.

1. ADOSH is issues fines to provide itself funding.

Actually ADOSH can’t use money collected and fines go into the state’s general fund. The Industrial Commission of Arizona – that enforces worker compensation, occupational safety and health, payment of wages, and child labor laws – is funded through, at most, a three percent surcharge of workers’ compensation premiums. ADOSH is also funded by federal sources.

2. ADOSH consultation services raises likelihood of being inspected.

Consultation and compliance are functionally separate from each other with their own inspectors and supervisors who can’t share information without specific permission from the ADOSH Director.

“You should feel very comfortable that if you are talking with consultation that you are talking to them in a confidential manner,” Keller said.

3. An employer will only be cited for hazards their own employees are exposed to.

Multiple employer jobsites create conditions where any employer that creates, controls, or is responsible to correct the hazard have responsibilities to

4. ADOSH can shut down jobsites.

ADOSH does not shut down any worksite, they issue citations that have a requirement to comply with more serious citations down the road if they are not. The most severe possible is an Imminent Danger Posting, but Keller hasn’t seen that in 27 years or an ADOSH inspection close a business.

“What can happen, is OSHA can come in and cite you and you can decide to abate that or believe it is not a violation and continue doing the work,” Keller said. “If OSHA comes back and you are still doing

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AZ-ASSE Charity Golf Tournament for Academic Scholarships

Our Annual Charity Golf Tournament will be held at beautiful McCormick Ranch Golf Club - for only $99/person! Included: snacks, lunch and a chance at amazing prizes!! All proceeds will benefit our AZASSE Foundation in funding academic scholarships in Environmental, Health and Safety. Sponsorships are available! Shotgun start at 7:30am Registration open at 6:30am.

Venue: McCormick Ranch Golf Club 7505 E. McCormick Pkwy Scottsdale, Arizona 85258

Date: Date: May 29, 2015

Time: Start Time: 7:30 AM End Time: 1:30 PM

Price: Price: $99.00

Awards and Honors Committee Looking for Potential Awardees

The Awards and Honors Committee, headed up by Norm Watkins is looking for nominations for the following awards:

- Chapter Safety Professional of the Year
- Executive of the Year
- The Mike Cook Outstanding Volunteer Award
- Select Society of Safety Superstars
- Society’s Triangle Award
Industrial Hygiene in Construction Field

A presentation on industrial hygiene in construction at the ASSE Construction Section meeting February 13, inspired a discussion on elements of a respiratory protection program, and the hazardous materials that may prompt the need for respirators.

Enrique Luviano, Operations Manager for Hutzel & Associates, Inc. facilitated the discussion at the AZ Safety Education Center. Luviano conducts industrial hygiene surveys, safety and health audits in construction and industrial workplaces, including schools, government entities, general contractors, mines, hospitals, and power plants.

Luviano explained that he’ll conduct air sampling, putting monitors on people as they work their jobs to quantify their daily exposure to airborne concentrations of materials and compare them to limits of OSHA and other organizations.

He often tests for asbestos, lead, silica, cadmium, hexavalent chromium, mold, and diesel particulate matter. He’s seen asbestos, an inorganic fiber that is still around in old construction materials, limits drop from 2 fibers per cubic centimeter (f/cc), to 1.0 f/cc, and now its 0.1 f/cc.

Like asbestos, silica is another inorganic substance that gets into the lungs and causes scar tissue 20 – 45 years later. OSHA has a special emphasis program focusing on silica exposure from: sandblasting, rock drilling, foundry work, stone cutting drilling, mines, concrete mixing, concrete blasting, roof tile cutting. Luviano said OSHA is considering lowering the silica exposure limit by half from 100 to 50 cubic meter. That’s a move recommended by another organization the National Institute for Occupational Safety (NIOSH) 40 years ago, but it takes a long time for OSHA to revise the legal Permissible Exposure Limit (PEL). When considering exposure limits, the

When considering exposure limits, the PEL is an 8 hour time weighted average to determine the extent of exposure over an entire workday. There is also a lower “Action Level” where some kind of mitigation must be done like training or exposure notices. The Short Term Exposure Limit (STEL) is a shorter exposure limit, usually 15 minutes. And there is a ceiling where nobody can be exposed to that amount at any time.

Upcoming Women In Safety Engineering Events

Women in Safety Engineering (WISE) is hosting a networking event the evening before the 2015 Arizona Health and Safety Summit Professional Development Conference.

Starting at 5 p.m. April 15 at the Chaparral Suites, the even is open to men and women and will include ASSE President Trish Ennis.

Then save the date for the Making Strides Against Breast Cancer Walk on October 24. WISE will have a team “AZWISE” at the American Cancer Society event.

WISE is a networking opportunity for women that fosters the opportunity to share ideas. WISE upholds an environment that allows for discussion, encouraging and promoting women to make a greater impact within the safety profession.

WISE members attend monthly teleconferences, and regular chapter meetings and participate in volunteer activities.

The 30 minute teleconferences are held the first Tuesday of every month. Contact WISE chair Natalie Braunger for more information.

Annual Billboard Campaign

Starting April 28 for Workers Memorial Day look for Billboards around Phoenix to highlight important occupational safety issues: Heat, Falls, Distracted Driving, and North American Occupational Safety and Health Week (NAOSH).

Continued on Page 6
The Importance of Humor in Training

In the keynote January joint session speech Tim Page-Bottorff livened up lunch with his presentation “Humor in Safety Presentation” that showed the importance, and how-to interject humor and fun in any kind of training.

Page-Bottorff has learned in his two decades of occupational health experience that in order to engage a journeyman electrician going to his 13th annual Lockout/Tagout class that you need to do something unexpected. He’s brought Legos in to a 40-hour Hazwoper class and had groups develop a cite control model at their table.

“I always try to start a presentation with a story, not a joke,” Page-Bottorff said. “Show what’s important to you, to make a connection.”

He encourages instructors to start with interactivity and introduce people to each other and have fun. To illustrate that point, he grouped everybody at the lunch into groups and had them talk about a bad habit and elect a spokesperson to share the bad habits with the larger group.

The National Training Laboratories puts learning retention from just a lecture at 5%, the least effective method. To really increase learning you need to incorporate all the other more effective techniques: reading, audiovisual, demonstration, discussion, practice, and teaching others.

For Page-Bottorff, the best place to learn LOTO is right there on the floor where students perform the annually required inspection right during the class.

Other techniques discussed were:

- Start with an open ended story
- Minimize distractions
- Use technology (he prefers Prezi over PowerPoint)
- Disclose a personal fact
- Change emotions
- Finish the story at the end of the presentation

Arizona Chapter Executive Board

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Tim Page-Bottorff, CSP
**Six OSHA Inspection Myths**

Continued from Page 3

the thing OSHA thinks is a violation, they can cite you again."

A couple relevant points. Abating a hazard as directed does not indicate guilt if an employer still wants to challenge a citation. Failure to comply can result in more serious “willful” citations, and if the unabated hazard results in death or injury, there could be a criminal violation.

5. **ADOSH can inspect any job-site at any time.**

ADOSH needs a reason to search the worksite: a report-ed incident, complaint, targeted inspection, or a planned/programmed inspection.

“You have the right to limit the inspection to the scope of the fatality, catastrophe, and complaint.” Keller said. “If the compliance officer conducting the investigation sees other issues, they have the right to broaden the scope of the inspection.”

6. **ADOSH can’t interview employees privately.**

A.R.S. § 23-408 states that ADOSH has a right to question employees, and they can be interviewed privately within a reasonable time. They also have the right to an interpreter and can ask ADOSH to have a union representative present. The interview is voluntary and may be tape recorded. Employers have been stopped from trying to interfere with the interview process.

**Supervisor Tools to Assess Workers**

Continued from Page 2

words or instructions, or give appropriate responses to questions, then they shouldn’t be working at heights or around chemicals.

A supervisor also determines if a worker understands training demonstrated both verbally and in action. When training introduce a new concept at the end of the day, have them sleep on and process it, then the next day incorporate and test on it.

Substance abuse progresses from social use, to symptomatic use for the buzz, and then to the final addictive stage. Any-one can be a substance abusers, 10% of employers are and 73% of substance abusers are employed.

The key to detecting substance abuse is monitoring performance. The abuse may not be obvious and intentionally hidden.

Fatigue results in reduced physical and mental capacity. Symptoms are: tiredness, sleepiness, irritability, depression, giddi-ness, loss of appetite, digestive problems, and illness. Employ-ers can teach people about the value of sleep. Six hours is imp-ortant because it means four complete sleep cycles.

**Industrial Hygiene in Construction Field**

Continued from Page 4

Hexavalent Chromium exposure occurs when welding stainless steel, especially in a confined space. But because that may occur for only a short time, 15 minute, or half hour procedures, that the PEL for the day is calculated.

From these exposure assessments Luviano often issues a 12 month permit that exposures are safe. This also establishes a helpful documented exposure baseline for work practices. But if they aren’t, then controls are considered starting with engineering to work practice and administrative to personal protective equipment (PPE). “Once you get into PPE, there is paperwork, training, documentation, that’s last, but if you have to do it, you do it,” said Luviano.

**Central Arizona Project Safety Challenges**

Continued from Page 1

sues that we don’t create,” said Perkins, “Lots of open canal that people dump and drive vehicles into the canal.”

To clean up a large inventory of old materials collected over the years they have adopted the 5S organization method to improve their housekeeping methods.

Perkins estimates, because it’s impossible to keep count, over 1,000 confined spaces within the CAP. “Our policy is every confined space is a permit space until we prove that it’s not. It doesn’t matter if we’ve been in there yesterday or 1,000 times before.” Perkins said.

CAP also emphasizes safety when working with high voltage electrical equipment, which they have to do; and er-gonomics, constantly review-ing operations to find a better process.