



# Benchmark

## F&SS News and Progress

January-February 2018

## Mother Nature runs the show for Sitewide Operations

2017 was a banner year for environmental impacts to INL. The historic snowfall of winter 2016-17, which affected travelers, animals and work at the desert Site, led to the springtime appearance of the Big Lost River for the first time since 2012.

In August, thousands of people came to eastern Idaho, including the INL Site, to watch the total eclipse. In November, the Big Lost reappeared and then froze. Throughout the year, the Sitewide Operations (SWO) team conducted decontamination & demolition of several old structures. Each of these events required significant additional effort by SWO crews beyond their normal daily tasks.

In recognition of these efforts, the crew was recently awarded the new F&SS “Tip of the Spear” award for meritorious service to INL in the face of blizzards, eclipses and demolition activities. “The SWO team demonstrated clear dedication to the safe operations of the INL Mission and its people.”

Weather and wildlife have a huge impact on the work SWO crews perform every day. “Because we

are stewards of this piece of property, our day-to-day work often involves responding to and mitigating the results of environmental events,” said Rod Bitsoi, Sitewide Facilities and Operations director. Steve Christensen, SFO operations manager, said it succinctly: “Environmental concerns control everything we do.”

Christensen’s crews are responsible for monitoring and maintaining the largest site in the Department of Energy’s national laboratory complex. In addition to laboratory facilities (which account for less than 2 percent of INL’s 890 square miles), the SWO team has to keep tabs on a river, grasslands including protected sagebrush, lava outcrops, caves, protected species habitat, wildlife, and a multitude of historical, prehistoric and archaeological sites.

Routine tasks involve mowing and spraying weeds along roadsides in the summer, maintaining railroads that still operate on INL property (the crew upgraded about 1,800 railroad ties last summer), maintaining the 6,400 No Trespassing signs that



surround the perimeter of the INL desert Site, decontaminating and demolishing old facilities, and...dealing with whatever Mother Nature decides to throw at them any given day.

*Continued on back page*

## F&SS kicks off 2018 with a look back at ‘amazing’ 2017

Facilities and Site Services workers realigned their safety focus following a well-deserved break, and celebrated an amazing 2017 in safety standups Jan. 2 and 3 at the CFA Big Shop and the Energy Innovation Laboratory.

“2017 was an amazing year – arguably our best year ever,” said F&SS Director Carlo Melbihess. Highlights of the year included:

- INL scored 97 percent on the Department of Energy’s Performance Evaluation and Measurement Plan (PEMP) for the fourth year in a row. It’s believed no other lab has ever done this. In fact, INL and Pacific Northwest National Laboratory (PNNL) are the only Battelle-affiliated labs to receive this score in 2017.
- DOE awarded Battelle Energy Alliance a five-year contract extension to 2024. “This is DOE’s way of showing appreciation for how we are managing, and you are supporting, Idaho National Laboratory,” Melbihess said.
- F&SS experienced one of its safest years ever. “One of the things I’m most proud of is our safety performance – we reduced incidents by 60 percent in 2017 – phenomenal!” said Melbihess.
- F&SS is leading the lab in employee development. More than 60 supervisors have attended Battelle Memorial Institute’s Laboratory Operations Supervisor Academy (LOSA). F&SS has continued the supervisor forums, added manager forums, and provided business-line-specific training.
- Customer satisfaction is high. “I receive constant feedback on how well we are supporting the lab,” said Melbihess.

Several courageous teams braved the spotlight to compete in the F&SS Family Feud, hosted by Ed “Dawson” Anderson, F&SS deputy director. The primary theme was Battelle’s Eight Principles of Safe Conduct of Research. Their attempts to guess the top answers to questions – previously answered by 100 random F&SS workers – proved to be frustrating, hilarious, and enlightening. As expected in a Family Feud episode, the commercial breaks featured F&SS personalities offering safety suggestions and hair care tips. The humorous activities reinforced the need to take a serious approach to situational awareness,



F&SS Director Carlo Melbihess thanks workers at the safety standup in the CFA Big Shop.

FACILITIES AND SITE SERVICES

F&SS



error precursors, identifying and reporting issues and injuries, a proactive safety culture, owning your work, trusting and looking out for co-workers, the importance of supervisor training, and paying attention both to the job at hand and the big picture when planning and performing work. Team Bitsoi of Sitewide Facilities was declared the Feud winner on Jan 2. Barnes' Raiders won the Feud Jan. 3.

Several teams and individuals were recognized by their peers to receive F&SS Achievement, Safety Excellence, and Core Values awards. Winners included:

*F&SS Achievement Team award:*  
*Power Management Major Maintenance Team*

*F&SS Achievement Individual award:*  
*Amanda Edelmayr*

*F&SS Safety Excellence Team award:*  
*Subsurface Investigation Team*

*F&SS Safety Excellence Individual award: John Taylor*

*F&SS Core Values Team award: CFR/SFR Team*

*F&SS Core Values Individual award: Bill Shelton*

A new honor, the “Tip of the Spear Award,” was presented to the team that “led us in places we’ve never been before,” said Anderson. The award went to the Sitewide Services Roads & Grounds crew to recognize their extraordinary effort during the heavy snows last winter. Snow crew members worked 17 hours over Christmas Eve, were back at work by 5 the next morning (Christmas Day), and ultimately worked 46 days straight moving snow during one of the worst snow years ever in eastern Idaho. “In my thirty-three years of working at INL, I can’t remember a worse snow year than 2016-17,” said Anderson. The Roads & Grounds crew includes supervisors Pete Martinez, Eric Walker and Kathy Miles, and manager

Steve Christensen; laborers Brock Bassett, Everett Coon, Stan Hamberlin, Chance Ellis, Adam Snooks, Kevin D. Wells, Eric Greene, Dillon Andrus, Rachel Martinez, James Snyder, Josh Helderma, Taylor Fisk, Jared Purser and Ramiro Ortega; heavy equipment operators, equipment operators, and EO helpers Kevin Bagley, Robert Prouse, Kurt Wanstrom, Travis L. Andersen, Robert Frederick, Jerry Cloward, James Andersen, Eric Pratt, John Hansen, Stan Blattner, Aaron C. Anderson, Eric West and Chris Rupp.

Before the groups broke to head out into the new year, Melbiess issued a request and a challenge. “We’ve had a great year – how do we make this year better? Give us your ideas!”





# F&SS EHS Road Map paves the way to safety

In 2015, Facilities and Site Services saw a rapid uptick in injuries. The incidents were not occurrences that had been identified in hazards analysis; in fact, most of them occurred away from the main job site, while performing ancillary tasks. “When we looked for causes, most of the injuries appeared to be culture-based,” said Dwight Stevenson, Environment, Safety and Health manager for F&SS.

Recognizing that workers were missing opportunities to protect themselves from injury, the EHS team developed the F&SS Health and Safety Road Map to help employees truly own their own safety. The road map broadly outlines three years of planned activities, recognition, and peer review teams that together are helping improve safety, trust, and personal development across the organization. The road map was developed within the tenets of F&SS’ core values and Battelle’s Eight Principles for a Strong Safety Culture.

The F&SS Incident Prevention Council approves the road map, but its contents come from F&SS workers. “Your peers came up with this road map – it came from the deck plate, not from Carlo, Ed, or Dwight,” F&SS Deputy Director Ed Anderson told the audience at the New Year’s Safety Standup. “During their visit last fall, the Continuous Commissioning Team asked me how on earth we were achieving our safety record. I told them trust, and the road map.”

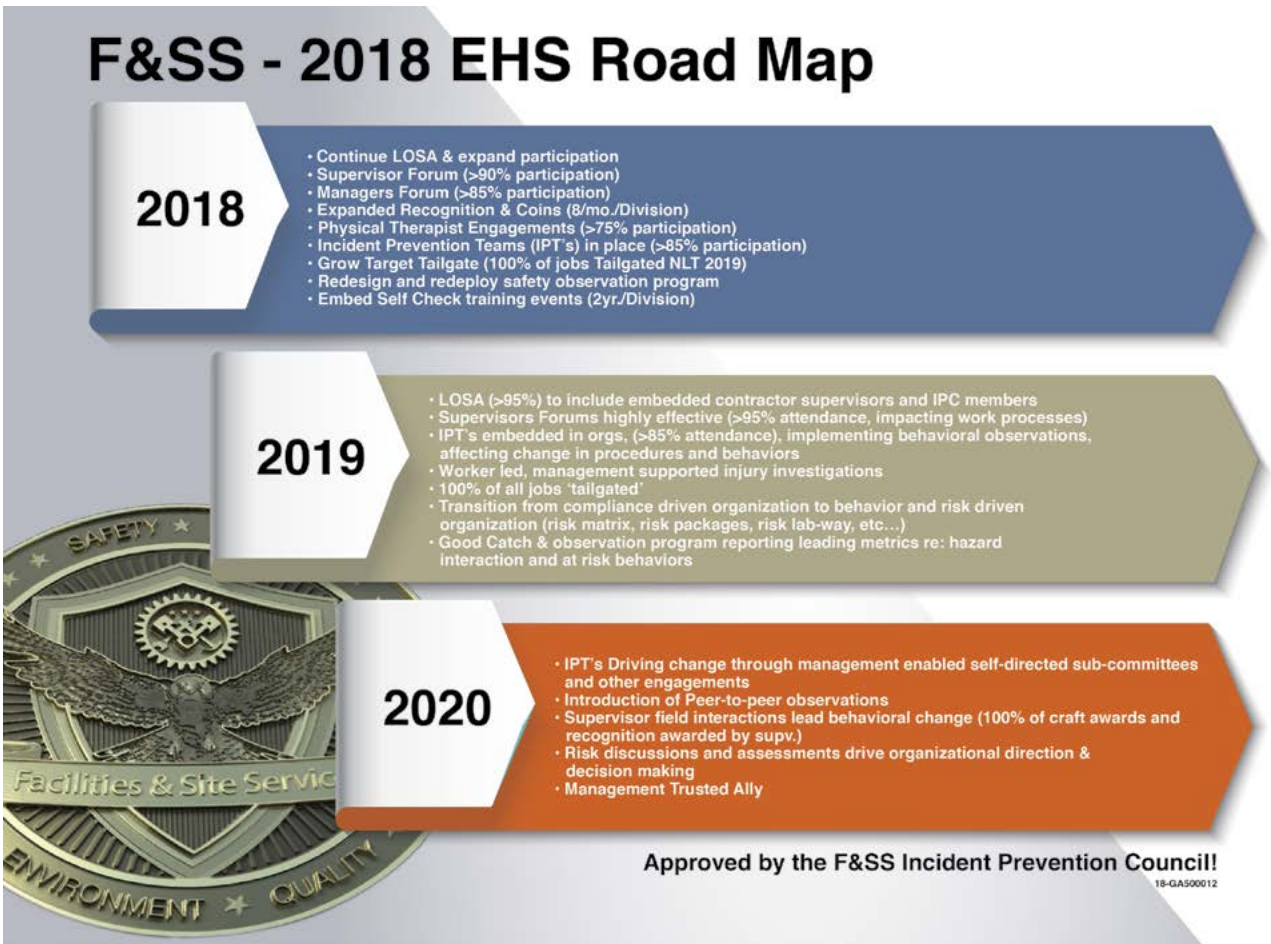
For instance, the ongoing supervisor and manager forums came about because supervisors who had attended Battelle Memorial Institute’s Laboratory Operations Supervisor Academy (LOSA) came home excited about what they had learned, and wanted to do more. Today, the forums are an integral part of F&SS personal development.

“The road map is a working document,” Stevenson said. “We aren’t too proud to realize that some things work and some don’t. The workers let us know

when something could work better.” The Incident Prevention Council gives all F&SS workers a place to take their concerns and serves as the voice of employees to management.

Is the road map working? The results speak for themselves. Recordable injury rates for F&SS have plummeted since peaking in 2015. “The Continuous

Commissioning team recognized a step change of improvement in the F&SS organization over the past two years. They particularly noted our improvements in trust, management in the field and development of people,” Anderson said. “Great job, everyone, and keep doing it right.”



**F&SS – 2018 EHS Road Map:** The road map outlines goals for the next three years. You can find the road map online at <https://fss.inl.gov/sites/ehs/SitePages/Home.aspx>, or click the link on the right-hand side of the F&SS home page.

## Target tailgates customized for specific tasks

Target tailgates are a new tool designed to give F&SS workers one last review of the task before commencing work. Self-checks, based on the Human Performance principle that we are all error-prone, remind us to “stop and think” before beginning work. Target tailgates take self-checks one step further by providing short, job-specific questionnaires that give direction to the think portion of a self-check.

The target tailgate initiative began last year on a limited basis. Pre-job briefs still take place in the shops, but once workers are in the field, they can run through a target tailgate specific to their trade, giving them one last safety review before starting that day’s tasks.

“The folks in the trades developed the questions for their work,” said Shawn Williams, safety professional at Central Facilities Area. Target tailgates help ensure that all work hazards are assessed for every job, every time.

“Target tailgates are a great example of an organizational best practice that we are incorporating across the F&SS Division,” said Dwight Stevenson, Environment, Safety and Health team lead for F&SS. “They came directly from Power Management’s tailgates, and the Big Shop’s workability walkdowns.”

Although performing target tailgates is voluntary, the initiative’s goal is for 100 percent of jobs to be tailgated by the beginning of calendar year 2019. “Every worker has the power to do target tailgates,” said Stevenson. “They are your safety tool – as much a piece of personal protective equipment as your safety glasses.”

F&SS TARGET TAILGATE		
Electrician		
Date	Task	
Key Thoughts-Rumble Strips!		
	Y	N
Are you familiar with the task?		
Are you comfortable performing the task?		
Do you need additional help with the task?		
Are you focused? (Task and surroundings)		
Are there other people in the area or assigned to the task, have you talked?		
Trade Specific Hazards		
	Y	N
LO/TO? (Simple/Complex)		
Flash Hazard Analysis?		
Do you have the proper PPE?		
Are there any unexpected hazards at the job site?		
Proper tools and Parts?		
Working alone? (location, check-in's, communication)		
100% agreement concerning the task and hazards?		
REMEMBER, every worker has Stop Work Authority!		

F&SS TARGET TAILGATE		
Carpenter		
Date	Task	
Key Thoughts-Rumble Strips!		
	Y	N
Are you familiar with the task?		
Are you comfortable performing the task?		
Do you need additional help with the task?		
Are you focused? (Task and surroundings)		
Are there other people in the area or assigned to the task, have you talked?		
Trade Specific Hazards		
	Y	N
Do we have the necessary tools and supplies to safely complete the work?		
Is the proper PPE available?		
Work area walk down complete and hazards identified?		
Area and task specific hazards have been mitigated		
Unexpected hazards present at job site?		
Working alone? (location, check-in's, communication)		
100% agreement concerning the task and hazards?		
REMEMBER, every worker has Stop Work Authority!		

**Carpenter and electrician checklists:** Each work group has developed their own target tailgate checklists that include key thoughts every worker needs to consider before starting a task, as well as trade- and job-specific questions.



# Crews demolish old RESL building CF-690

Sitewide Facilities and Operations demolition crews recently completed D&D of the old Radiological and Environmental Sciences Laboratory (RESL) building at the Central Facilities Area, finishing a process that began last summer.

CF-690 was built in 1963 and contained 32,394 square feet of office space, radiochemistry laboratories, organic and inorganic chemistry laboratories, and a whole body counting area in a shielded vault. The building was vacated in 2011 when RESL moved to a new facility at the Research and Education Campus and stood empty until last fall.

Before demolition could occur, SFO crews performed final decontamination of the facility. “CF-690 was a radiologically contaminated building, but we didn’t find a lot,” said Herb Pollard, INL’s D&D program manager. “As we’ve gone through, we’ve been able to clear a lot of the building that was suspected to have contamination. It’s a relatively clean building, but it has taken a lot of work to make sure of that.”

D&D activities for CF-690 were halted for a short time so the INL Fire Department could conduct live fire training (see article in this Benchmark). Demolition crews began knocking down walls at the end of November. Due to the column-and-

beam structure of the building, careful, stepwise demolition was necessary. “If we weren’t careful, the whole thing could have come down at once, becoming a little more of a nightmare to clean up,” Pollard said. Demolition crews worked section by section, taking corners off first, and lifting exhaust vents off with an excavator.

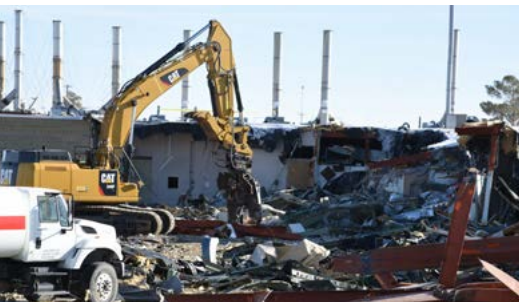
Today, all that remains of the building is a pile of structural steel that will be cut up and reused by National and Homeland Security. The area where the building stood has been capped with topsoil and seeded with natural grass so it will return to as close to undisturbed as possible.



Heavy equipment operators Bobby Frederick (in the John Deere) and Jerry Cloward (in the Cat) scoop up debris from CF-690.



Jerry Cloward uses a processor arm to move structural steel to a separate pile for recycling.





# American Bus Association honors INL with Green Spirit Award

The American Bus Association’s Environmental Committee has selected Idaho National Laboratory for its 2018 Green Spirit Award to honor the laboratory for investment in environmentally responsible equipment and the adoption of green business practices.

The Green Spirit Award is presented to a motor coach operator that demonstrates the greatest commitment to environmental stewardship in all areas of its business and community. The award is based on three aspects of a company’s operations: administrative, maintenance, and equipment and facility practices. INL was chosen as a winner of the ABA’s Green Spirit Award in the “special recognition” category.

ABA presented the award to Tad Pearson, INL Transportation Services manager, and leaders of Mission Support Services at the association’s annual meeting in Charlotte, North Carolina, on Jan. 29.

“We are truly honored to receive this award from our peers in the motor coach industry,” said Scott Wold, INL Mission Support Services director. “The award recognizes INL for many years of investment in environmentally responsible equipment and the adoption of green business practices, including collaboration with the motor coach industry to find cleaner, more energy-efficient technology.”

INL’s Transportation Services – which operates the largest bus and light vehicle fleet in the U.S. Department of Energy complex – has long been a supporter of investigation into improving sustainability of bus and vehicle systems. The ABA award, co-sponsored by leading bus manufacturer Motor Coach Industries, recognizes the lab’s investments in promoting a green working environment, plus INL’s collaboration with the motor coach industry to find cleaner, more energy-efficient technology.

Transportation Services reduces greenhouse gas emissions by transporting employees with a modernized bus transportation system, taking nearly 2,000 cars off the road per day. By streamlining the INL mass transit system that provides safe, efficient, and sustainable transportation to work for its employees throughout eastern Idaho, INL encourages travel behavior changes to reduce carbon emissions and fossil fuel consumption, and increase highway safety. Other actions include instituting a park-and-ride system, eliminating the cost to INL (Battelle Energy Alliance) employees for using the bus system, adding additional buses to accommodate increased ridership, and relocating some employees from the desert Site to Idaho Falls offices.

“At INL, we are continuously looking into real-world techniques and solutions to help reduce greenhouse gas (GHG) emissions and overall energy use, and increase the level of recycling and diversion of both municipal and construction/demolition waste,” said Wold. “INL transportation and fleet management staff



**Patricia Ziska, right, MCI vice president of new coach sales, presents the American Bus Association Green Spirit Award to Tad Pearson, INL Transportation Services manager.**

hope to eventually expand our operations model and innovations to help trucking companies, government agencies, and other companies with large fleets of vehicles reduce their impact on the environment.”

INL pursues ongoing efforts to conserve fuel, including a stringent idle reduction program. Drivers and mechanics attend annual driver safety training, which incorporates fuel-efficient driving techniques into both classroom and on-the-job training.

Further reductions in petroleum fuels are anticipated through the implementation of a “no-idle” battery electric auxiliary power unit (APU) with a high performance solar energy system on INL buses. With funding support from the Department of Energy’s Sustainability Performance Office, INL formed a working partnership with MCI and Bergstrom, Inc., a prominent cab climate systems designer/builder, to design and modify a bus cooling-ventilating system to sharply reduce idle emissions. In August 2017, a pilot proof-of-concept no-idle HVAC project was completed with the installation of the Bergstrom battery electric APU with solar, and motor coach industry representatives attended a demonstration and technical review at the Energy Innovation Laboratory. The system is now being tested on INL fleet vehicles.

The bus no-idle climate control project started out as an idea to reduce idling, greenhouse gas emissions, save costs due to fuel and maintenance and still keep the bus cabin at a comfortable temperature for the passengers. An INL team, through collaboration with private industry, envisioned, created and demonstrated to the commercial market an electrified HVAC system for a motor coach. The desire to reduce idling time while maintaining the coach at a comfortable temperature was needed by Idaho National Lab bus fleet as well as many public and private motor coach fleets across the United States and foreign markets. Many cities and national parks now have strict no-idle zones to reduce emissions and noise in congested areas.

The no-idle system incorporates the spirit of the lab by integrating many disciplines, such as alternative energy and sustainability, while furthering the Department of Energy’s goals of reducing greenhouse gas emissions, then deploying this technology to the public and private industry. This project was recently expanded by installing systems for testing on three Security and Bus Operations vehicles.

In the summer of 2017, GHG emissions were reduced even more at INL when the lab began using R99 fuel as a replacement for the 20 percent biodiesel blend B20. INL is now investigating techniques and additives or blends in order to operate on R99 in subzero winter conditions. The lab continues to expand and encourage the use of teleconferencing and trip consolidation to further reduce miles traveled.

Several years ago, Mission Support Services developed a Heavy Vehicle Simulator after a study revealed that INL bus drivers on the same bus routes were posting fuel efficiency numbers that fluctuated up to 30 percent. With that discovery, investigators began looking at human factors, or how humans interact with technology and systems, to determine how driver behavior impacts fuel efficiency. The HVS is much like flight simulators used for pilot training. Based on extensive data gathered through telematics installed on INL buses, the simulator uses computational intelligence techniques to process drivers’ decisions, and gives real-time feedback on how to improve their efficiency and save fuel. And in another recent endeavor aiming for a lower-cost, environmentally friendly alternative bus fuel, INL explored a dual-fuel system by converting several INL buses to run on a combination of biodiesel fuel and LNG (liquefied natural gas).

INL transportation and fleet management staff hope to eventually expand its operations model and innovations to help trucking companies, government agencies, and other companies with large fleets of vehicles reduce their impact on the environment. The laboratory routinely publishes articles and information on Site Sustainability efforts and Fleet Management initiatives. The INL Transportation Services manager serves on the board of directors for the Yellowstone-Teton Clean Cities, which functions as the Department of Energy’s on-the-ground advocate focused on petroleum displacement activities in the Greater Yellowstone Region.

With its nearly 890-square-mile desert Site, INL is geographically the largest of the Department of Energy’s 17 national laboratories, and the Site serves as a national environmental research park. INL incorporates DOE’s key strategies and goals for sustainability in its Site Sustainability Plan, developed to help enable and sustain the laboratory’s core capabilities, including advancing nuclear energy, enabling clean energy deployment, and securing and modernizing critical infrastructure.

## Workers briefed on advances in ladder technology

Technology is always moving us forward, and even though ladders have been in use for thousands of years, ladder technology keeps improving. And that’s good news for anyone who uses a ladder at work or at home.

Recently, a vendor shared safety advice about new ladder technology in demonstrations for desert Site employees at the Central Facilities Area, and for those on the Research and Education Campus at the Willow Creek Building atrium.

When opening and extending new ladders, crews can work more safely with new treads that click, as well as better outriggers and platforms. Even losing weight can translate into being safer when using ladders.



**A local vendor shows new ladder technology to (left to right) Steve Karns, DOE-Idaho, and REC crafts workers Rodney Clark, Blake McMurtrey and LaRon Johnson.**



# Good Catch – See it, Share it!

If you want to make a difference in the lives of your co-workers who depend on you – and your family and friends who count on you – be a good sport and make a Good Catch.

As part of the EHS Road Map, F&SS has launched the Good Catch program. The idea is to promote trust, build our culture of individual ownership, recognition and safety, and recognize employees for reporting good safety practices.

It's a chance for any employee to identify concrete examples of the Eight Principles for a Strong Safety Culture in our workplaces.

Anyone – staff, subcontractors, supervisors or managers – can submit a Good Catch for a chance to be entered into a drawing for prizes. To submit one, send an email or text message to [goodcatch@inl.gov](mailto:goodcatch@inl.gov), mail a print copy of the Good Catch to mail stop 4137, or open LabWay and click on the Good Catch Program tile.

“Submitting a Good Catch reinforces the notion that all of us are responsible for our own safety, and creates a workplace where we communicate openly and look out for each other,” said Dwight Stevenson, Environment, Safety and Health manager for F&SS.

The Good Catch program is designed to recognize and reward employees for intervention in an unsafe act or condition; a safe act above and beyond the call of duty; or intervention in an event that could have been adverse to what was expected, but was prevented.

The time to make a Good Catch is when you find yourself or someone else starting to do something potentially unsafe. Pause, and say to yourself or others: “Whoa, stop!” Take time to point out the possibly unsafe or detrimental situation before it becomes an issue. You also can submit directly on the Good Catch webpage on the EHS Road Map website (found on the F&SS home page). And if you're interested in what others are submitting as good catches, you can read them on the Good Catch webpage.

Brooke Jackson, F&SS performance analyst, said submitting a Good Catch is easy and they should be brief. “You could simply write that you noticed someone not using stairway handrails, and you helped them carry packages up the stairs,” she said.

Here's just one example – along with a brief description (in boldface) – of a Good Catch: **Mike Larsen, REC Precision and Design technician, was working on a project to turn a round bar into a tube, and noticed his surface finish was not adequate. He took a time out and notified the quality assurance organization.** As a result of Larsen's Good Catch, the quality organization tested the item using liquid penetrate and discovered a cracklike flaw running the length of the part. The issue was then brought to the attention of the responsible engineer, who asked that a liquid penetrate demonstration be performed for the design engineering group to raise awareness for them, and create a discussion on the value of testing parts similar to these. Kris Boll, Quality Assurance Engineer Support for REC Fab Services, conducted a liquid penetrate examination demonstration to REC design engineers and received positive feedback.

In a Jan. 16 Interoffice Memo to all F&SS employees, Carlo Melbihess, F&SS director, said by establishing this program, “F&SS is creating an environment where the staff feels free to report good catch incidents and the reporting is never used for punitive purposes. Since we started the Good Catch program at F&SS, we have seen improvement ... the likelihood of even a near loss occurring decreases.”

When something doesn't look right, pause and point out your concern. Then, submit a brief Good Catch write-up and include your name if you want to enter the drawing. Those around you at work and at home will thank you – and you might even win a prize.

Good Catch website  
<https://fss.inl.gov/sites/ehs/SitePages/Good%20Catch.aspx>

Good Catch Interoffice Memo and instructional overview  
<https://ihome.inl.gov/iNotes/CDM-001-18%20Good%20Catch%20Program.pdf>

# News in brief

## Summer intern wins accolades for installing life-saving smoke alarm

An INL summer intern in Facilities & Site Services has earned accolades for installing a life-saving smoke alarm in the home of an Oklahoma resident in the fall of 2017.

The device, which he installed while working as a student smoke alarm installer, alarmed when a fire occurred three months later in December 2017. It alerted a mobility-impaired resident and a caregiver so they could escape unharmed.

Nick Mueller, an Oklahoma State University student who was a fire protection intern for mentors David Young and Dwight Stevenson in the summer of 2017, had installed fire alarm equipment in homes of residents with low vision or mobility impairment in September 2017. One of the devices he installed in the home of a Guthrie, Oklahoma, resident sounded because of a fire, allowing her and her caregiver to flee on Dec. 2, 2017.

“My most prominent role was installing smoke alarms in the homes of those with disabilities whom applied and were accepted by the OkAT smoke alarm program,” said Mueller. “The equipment installed includes single station smoke alarms and a bed shaker alert device.”

Now an OSU alumnus, Mueller is excited and prepared to start his career in the fire service.

OSU news release  
<https://ihome.inl.gov/iNotes/FPPMueller-Saves.pdf>

## F&SS service anniversaries for January, February

- 35 years:** Tonya Harward, Cindy Styhl  
**30 years:** Patrick Bragassa  
**25 years:** Kenton Harwood, Michael Yost  
**15 years:** Scott Lish  
**10 years:** Brandon Rainey, Ryan Saunders  
**5 years:** Kenneth Pulliam, Jerry Robertson, Ronald Rose, George Shindurling, Brett Darner, Kevin Niederer

# Eight Principles for a Strong Safety Culture

**1. Everyone is personally responsible for ensuring safe operations**

- You are accountable for safety! You have EHS professionals available, **USE THEM!**
- Know the hazards of your task better than anyone. If you don't know - ask, ask, ask!
- We are human, but we take every measure to reduce risk to our friends & colleagues
- Anyone can stop work. You are expected to use it.
- Work around don't cut it. Use the process

**2. Leaders value the safety legacy they create in their discipline**

- Leaders set the standard for safety
- We can all coach, mentor and reinforce expectations. Leaders lend a hand!
- Communicate often & frequently your safety expectations
- Know the pressure points that come from being a great team & keep safety at the forefront

**3. Staff raise safety concerns because trust permeates the organization**

- Speak up! We can't fix it if we don't know about it
- Reward questions! Questions are a sign of strength, not weakness
- Anyone can challenge unsafe behavior – and each challenge is an opportunity to get better

**4. Cutting-edge performance requires cutting-edge safety**

- Conservative decision making is how we execute, every time
- Safety is how we work, not just being compliant
- INL is world class, our safety will be too

**5. A questioning attitude is cultivated**

- In the face of uncertainty, researchers do not proceed with work until potential impacts have been evaluated and controls are in place to mitigate them
- Near misses, events and deviations are thoroughly investigated and mitigated
- All views & opinions are encourage and used to advance our programs
- Differing opinions are respected, but debate doesn't paralyze decision making

**6. Learning never stops**

- Every job, task, or project provides opportunities to improve safety
- When challenged by someone, you view it as a chance to get better
- Safety techniques and lessons learned are routine topics in maintenance discussions

**7. Hazards are identified and evaluated for every task, every time**

- F&SS workers completely understand the hazards associated with their work, the controls necessary to do the work safely, and the rationale behind the selection of the controls used
- Procedures and safety components are constantly reevaluated to ensure they still provide the protection required
- Workarounds are viewed as unacceptable risk and are avoided

**8. A healthy respect is maintained for what can go wrong**

- Complacency is a risk! Routine tasks result in serious injuries
- Time pressure is a setup for mistakes – acknowledge it and heighten safety during those periods



# Manager Forum



## Campus Development Office demonstrates new office furniture, cubicle design

Those who want to “kick the tires” and weigh in on proposed new office furniture for future INL research and office buildings have a chance to examine the desk arrangements in the Willow Creek Building atrium. Employees are asked to provide feedback and offer comments on what they like the best and the least in [this survey](#). Campus Development Office set up the furniture and desk display in the WCB atrium, and then offered the survey via iNotes. The displays are intended to capture input regarding the new furniture designs on display. These furniture mock-ups were developed in part from the ideas of users and potential occupants of two new INL buildings – Collaborative Computing Center (C3) and Cybercore Integration Center (CIC) – which will be under construction later this year. CDO is always looking for new ideas to make INL’s office spaces more comfortable, inviting and functional. A short video showing the versatility and functionality of this furniture is [available here](#). Any questions regarding the survey or furniture can be directed to Space Management Program Lead [Randy Lee](#) (526-0120).



Campus Development Office set up a furniture and office cubicle display area in the Willow Creek Building atrium to gather ideas and feedback from employees.



# F&SS fire protection engineer volunteers at Future City competition

Fire Protection Engineer David Young recently had an opportunity to share his profession with future engineers when he volunteered as a judge at the regional competition of the Future City™ Competition in Boise on Jan. 20. “I’m on the Committee for Outreach and Advocacy, which is a standing committee within the Society of Fire Protection Engineers, and we decided to focus on Future City this year,” Young said. “We are hoping to get middle school kids aware of the discipline of fire protection engineering – that it is something they can get a degree in, and practice.”

Future City is a national project-based learning experience for middle school students (sixth through eighth grades). This is the 14th year Idaho has participated in the 26-year-old program. Students work in teams to brainstorm solutions to problems people may face in the future. The program fosters an interest in math, science and engineering by challenging student teams with engineering problems they work to solve together in a hands-on approach that culminates with construction of physical city models and presentation of their solutions to volunteer judges.

This year’s theme was “The Age-friendly City.” Teams focused on how an aging population would move around the city, and how to enhance their access to services such as health providers. The competition has four parts. First, students develop a city based on the theme using SIM City software. They are required to write a 1,500-word essay on their city describing the environment they’ve created, the population and culture, and how the city addresses the theme. These two parts are judged online.



David Young poses with one of the teams he helped judge at the Future City competition.

After the city has been developed, teams construct models of a portion of their city that clearly demonstrate the theme while incorporating infrastructure and city services, transportation, city zones and recognizable structures. The cost of materials is limited to \$100 and they are encouraged to use recycled materials. The students also prepare a presentation they will give to judges the day of competition.

Young’s judging team, one of 13, judged five of the 36 teams in attendance, following a strict rubric supplied by Future City along with standardized questions. “I was really impressed by their thinking,” Young said. “Adults tend to have constrained thinking. These kids came up with some really innovative ideas for solving problems that we may face in the future.”

# NPMA magazine features Ira Pray as Fleet Professional of the Week

Ira Pray, fleet manager for heavy vehicles in operation at Idaho National Laboratory, was featured in a recent issue of the National Property Management Association (NPMA) weekly newsletter “Newsflash” as the Fleet Professional of the Week. The NPMA advances the profession of asset management through leadership in education, compliance and certifications.

During the 2017 National Education Seminar in Phoenix, Arizona, the National Property Management Association also honored Ira Pray with the 2017 Fleet Management Award. The national honor recognizes his leadership on recent projects that contribute to the safety and security of all who work at INL and other Idaho drivers who indirectly benefit from the partnership between INL and the Idaho Department of Transportation.

In the Jan. 17, 2018, issue of NPMA magazine, he responded to three key questions.

Ira Pray, Certified Federal Fleet Administrator (CFFM)

**What one tip or lesson learned would you like to share with the fleet community?**

Use of telematics in a modern fleet program is essential. If you are hesitant to try telematics due to costs, training, familiarity or even plain old stubbornness, I highly recommend adapting this technology. Our fleet consists of 1,100 various pieces of equipment from 120-ton mobile cranes to over-the-road motor coaches to small tractors and all types in between, and I cannot imagine trying to operate our fleet without telematics. I was reluctant to adapt the use of telematics due to a lack of

understanding the benefits. All I saw were increased costs and micromanaging my mechanics and operators. Since I made the move about five years ago, I have seen cost reductions on my maintenance intervals and increased equipment utilization.

**How can NPMA support growth in the fleet community?**

The Fleet certification process that NPMA is offering is a tremendous asset to the fleet community. The multilevel training is a tremendous value to the fleet professionals within my organization. The entry-level certification, Certified Federal Fleet Specialist (CFFS), should be a mandatory class for anybody working within the fleet world. This class covers rules and regulations that all fleet managers need to comply with as well as industry fleet best practices. The course also provides the answers to many of the “why” questions that nonfleet or property folks may ask. With this course as a fleet professional, you can educate others on the legal and best-practice requirements for fleet operation.

**What advice would you give someone new to fleet management?**

Fleets are very expensive and cannot be managed as you would manage your personal car. Many people think they are fleet experts because they own and operate a car. To understand how to manage a fleet, get engaged in professional fleet associations, and maintain contacts to capture best practices and the use of new technology. As a fleet manager, I spend a tremendous amount of time educating senior leaders on the unique requirements of fleet management.

## F&SS Lab Director’s Award Winners

F&SS recipients of the 2017 INL Laboratory Director’s Awards include the No-Idle Project Team, who received the INL Vision Award; and James Milloway, who received the R&D Technician of the Year Award.

Notes	
2017 Laboratory Director’s Awards Winners	
AWARDS	WINNERS
Patent Hall of Fame: 10 Patents	Douglas Akers, Kevin Gering
Patent Hall of Fame: Five Patents	Rick Demmer, Harry Rollins
Community Award	Mary Adamic
Inclusive Diversity Award	Theron McGriff
Leadership Award	Eric Dufek
Mission Advancement: Partnership and Collaboration Award	Consequence-driven Cyber-informed Engineering Team: Curtis St. Michel, Rob Smith, Sarah Freeman, Amanda Belloff, Roya Gordon, Kara Turner, Jeffrey Klinger
Mission Enabling Individual Award	Greg English
Mission Enabling Team Award	ATR Electrical Upgrade: Scott Despain, Michael Corbridge, Ben England, Russ Howard
Operations Technician of the Year Award	Jordan Cox, Tiffany Schorzman
Early Career Exceptional Achievement Award	Aaron Craft
Exceptional Engineering Achievement Award	Craig Reiger
Exceptional Scientific Achievement Award	Masa Shimada
Lifetime Achievement in Science and Technology Award	Steve Johnson
Inventor of the Year Award	Hussein Muradi
Research and Development Technician of the Year Award	Byron White, James Milloway
INL Vision Award: No-Idle Motor Coach Team	Ira Pray, Jeff Brown, Michael Perez, Bill Ziegler, Colin Letham
INL Vision Award: Irradiated Material Characterization Laboratory Team	Emil Franklin, Aaron Balsmeier, Noel Duckwitz, Jeffery Bailey, Jayson Bush



# Collaboration key to successful live-fire training

Some of the most essential human experiences are made possible through collaboration. Chocolate and peanut butter. Ketchup and mustard. For INL firefighters, an important collaboration among several organizations made an irreplaceable live-fire training possible.

Demolition planning for Central Facilities Area (CFA) 690, home of the old Radiological and Environmental Sciences Laboratory (RESL), began in August. Workers started demolishing the 32,394-square-foot building at the end of November.

During one of the pre-demolition walk-downs, INL Fire Department Deputy Chief Jim Blair commented that it would be nice if firefighters were given the opportunity to do some live-fire training in the building before it was demolished. D&D Project Manager Jeremy Bishop agreed and offered to do whatever he could to help make it happen.

From there, plans for the first-ever live-fire training in a national laboratory building were set into motion. Over three months of planning and coordination went into making the training a reality.

A fair amount of work went into preparing both the building and the fire department for a live-fire training evolution. Safety for all involved was paramount. The rooms to be used for the fire sets needed to be inspected, stripped of combustible materials, and prepared in a manner that minimized the potential spread of fire to other areas of the building. Sampling for PCBs, hazardous chemicals, asbestos, etc., had to be done. A comprehensive training plan that identified and controlled hazards would need to be prepared. Multiple stakeholders had to be on board with utilizing the facility for this singular purpose.

A project team was created. Representatives from several INL organizations worked together to prepare a proposal, obtain approval and coordinate efforts: the INL Fire Department; Campus Development Office; Construction Services; Technical Support Services; Project Management; Radiological Control; Industrial Hygiene; Environment, Safety & Health; and CFA management.

According to Bishop, every possible scenario was thought through to the end. “Hazards were identified and mitigated,” he said. “Every time something came up, we worked together to solve the problem and remove the obstacle.”

Jerry Holenbeck, INL Fire Department Fire Operations Division chief, led the planning effort for the fire department and oversaw the training as the lead instructor. He understands the importance and value of incorporating live-fire scenarios to improve training quality and ultimately firefighter experience with fire behavior.

Live-fire training exposes firefighters to real fire burn behavior, including heat and smoke development. It also provides the opportunity to reinforce proper utilization of personal protection equipment and suppression techniques. It helps build the experience necessary to think clearly and act calmly under the stress of an emergency situation. They must effectively use their training to solve the distinct problems of a fire emergency while maintaining their own safety, as well as that of their fellow firefighters.

“There’s no better way to get hands-on training in firefighting than through this kind of controlled, real fire environment,” said Holenbeck. “When a firefighter is called into action, you want someone

who has experienced the dynamics of a real fire. The experience our firefighters got out of the 35 burn sets spread over six days was well worth the months spent planning and preparing the building and paperwork. I know at times the team members thought I was crazy, but it was important to get the rooms prepped a certain way – I cannot thank them enough.”

For INL Fire Chief Eric Gosswiller, the training was successful for two reasons. First, it gave firefighters invaluable experience. INL is very good at preventing fires. That presents challenges to creating firefighter experience and this type of training helps address the challenge. Second, the training would never have happened without the collaboration and effort that took place among all the impacted organizations. “I couldn’t be more proud of the outcomes we’ve seen in this training,” Gosswiller said. “We had a thorough plan, a top-notch instruction team, fully engaged firefighters, and demonstrated good decision-making throughout. We’ve developed the model for performing more of this high-impact training in the future.”

Herb Pollard, Federal Facility D&D/Site Restoration Program lead, agreed. “It was great to see the groups working together. We evaluated the proposal, involved the right people, ensured we weren’t putting anyone at risk or impacting INL’s mission. The lab is stronger for having this training happen.”

With teamwork like that, firefighters experienced a collaboration that will positively impact their professional experience for the rest of their lives.



Live fire instructor team.



Ladder 1 hose evolution during live-fire training.

## James Milloway honored with Lab Director’s Award for Technician of Year

James Milloway, Fabrication Services electro-mechanical technician, is being honored with a 2017 Laboratory Director’s Award in the category R&D Technician of the Year.

Milloway and Byron White were selected to receive the Technician of the Year awards, which recognize the vital role played by technicians, and celebrates their important contributions to INL’s success. The award is based upon nominations put forward by INL managers, colleagues and co-workers.

Milloway works in REC Manufacturing Support under Mike Barton in the Bonneville County Technology Center in support of the Emergency Response and Readiness organization.

In a letter of recommendation for Milloway, researcher Joe Palmer described him as “an exceptionally talented

and motivated electrical/mechanical technician that has provided crucial support to a variety of high-value INL R&D projects. His accomplishments have demonstrated that his unique and diverse skill set make him an extremely valuable resource. Milloway is a pleasure to work with because of his sound work ethic and positive attitude. He regularly plays a role in mentoring others. All of these traits explain why he is often sought after by so many researchers.”



James Milloway

Among the other researchers and engineers who wrote letters of recommendation were Craig Biebel, John Zabriskie, Stacey Barker, Ramond Mitchell and Phil Winston.

Barker wrote, “James is very service-oriented and is always striving to exceed expectations. We often have requests for complex tasks that involve difficult machining. James is exceptional when it comes to these tasks, and many times will lead those efforts. Some of the intricate machining that he has done is very impressive.”

Please help us in congratulating James on this remarkable achievement.



# Big Lost River

The Big Lost River doesn't flow very often, only about once every five to seven years. When it reappeared in spring 2017, it was the first time water had been seen in the riverbed on INL property since 2012.

It's even more unusual to see the Big Lost flowing in the winter, but it has often enough that a diversion system was built at the southwestern end of the INL Site in 1958 to help control flooding that occasionally occurs due to ice jams building up. Steve Christensen, F&SS Sitewide Facilities and Operations manager, has only seen the Big Lost running in the winter twice in his 35 years at the Site.

The Big Lost originates high in the mountains north of INL. It flows through the Big Lost River Valley, past Arco and onto the INL desert Site, where it disappears in the Lost River Sinks southwest of the Specific Manufacturing Capability at Test Area North. The Big Lost is fed by snowmelt in the spring and summer. In the winter, water released from the Mackay Reservoir is the main contributor.

The Big Lost had dried up on the INL Site by the time visitors arrived to see the eclipse, but by November it was running again after the Mackay Dam water master began releasing water – the reservoir was full from last year's heavy snows and more was coming in. "At the end of November, when it got very cold, the ice in the river rose three feet in 24 hours," Christensen said.

With approval from the Department of Energy-Idaho Operations Office, SFO crews activated the diversion system, which directs water flow to spreading areas southwest of the Radioactive Waste Management Complex before it can get close to Site facilities. About 30 percent of the Big Lost flow is diverted onto the spreading areas.



DOE Facility Representative Steve Karns listens as Steve Christensen describes operation of the diversion gates. The river flow at the right has been diverted to the south from its natural course.



Water from the Big Lost River flows out onto spreading area A, southwest of RWMC. A water level pole helps SFO crews monitor water depth.



SFO crews monitor several locations daily for ice buildup, including this river crossing where the river runs beneath Lincoln and Monroe.











A panoramic view of the 890-square-mile INL desert Site.

# Mother Nature

continued from front page

Each day, the first step is to check the weather report. “The majority of our work is outdoors,” Christensen said. “We don’t really have the option of saying we are working inside today. We are out in the weather every day.” Curtailing elevated work when winds are sustained at 25 miles per hour is the one major concession the workers make to weather.

## Winter weather

Every winter, SWO crews are responsible for keeping Site roads, parking lots, and sidewalks clear of snow. Last winter’s exceptional snowfall ramped up their efforts to reduce impacts on Site workers, drivers on U.S. 26, and animals that make their home on INL property. The dedicated crews moved mountains of snow, including working 17 hours on Christmas Eve and returning the next morning to move even more. Besides keeping INL on-site roads clear, the SWO team assisted the Idaho Transportation Department. Because ITD snow removal crews were busy across the state, they requested INL assistance keeping U.S. 26 clear. In all, SWO snow removal crews worked straight through many days and nights and put in 800 hours of overtime keeping INL roads and sidewalks safe.

Drivers were not the only ones affected by deep drifts near the highways. “The U.S. Fish and Wildlife Service contacted us last winter,” Bitsoi said. The snow was so deep that antelope couldn’t make their way through it to access food, so the animals were staying close to or on the highway, causing accidents. Fish and Wildlife requested INL clear pathways for the animals to feeding areas a mile off the highway in three locations.

Along with clearing snow for animals, heavy equipment operators also plow out pathways to environmental monitoring stations so U.S. Geological Survey and National Oceanic and Atmospheric Administration (NOAA) crews can access them. They have even used the Snow Cat to ferry workers up Howe Peak to service the radio transmission equipment there.

## Antelope and other wildlife

Looking out for wildlife such as antelope is routine for SWO crews. Last year, the crews installed warning signs with flashing lights powered by solar panels on several INL roads near areas elk, deer and antelope tend to congregate. The signs have helped cut down on the number of auto-animal collisions, keeping both the wildlife and INL workers safe.

D&D crews pay close attention to migratory birds who might build nests in structures slated for demolition. Once eggs are laid, the nests cannot be disturbed until the babies have fledged, so demolition cannot occur until the nests are empty.

INL is home to several protected species and their presence guides work throughout the year. During the spring, several areas are off limits during sage grouse dating/mating season.

Bats are not officially protected, but they are by the SWO team. The crew demolishing CF-633 last summer delayed work several weeks for baby bats in the structure to grow big enough to leave, and then bought a couple of bat boxes to replace the habitat that went away when the building came down.

## Cultural resources and environmental concerns

Before the U.S. government began using the area now known as INL in the 1940s, settlers attempted homesteading. Before the homesteaders, Native Americans hunted across the Snake River Plain. Before humans came on the scene, prehistoric animals roamed across the plains. They all left traces of their passing. Although the SWO teams work all across the desert Site, they make sure cultural artifacts, remains of settlements, and fossil remains of prehistoric life remain undisturbed. “We don’t put a blade on the ground without input from INL’s Cultural Resources office,” Christensen said.

Crews always take along an Environmental Checklist, which must reflect the project work

scope, including construction and operation, as well as consequences. Work is carefully planned to take into consideration any environmental impacts and includes mitigation and remediation measures. For instance, when work requires the removal of vegetation including sagebrush, a protected species, DOE’s Candidate Conservation Agreement is invoked. The CCA states that there will be no net loss of sagebrush on the INL Site, so sagebrush must be re-established in acreages equal to or greater than the acreages lost to the project. Every time they head out to do their work, every SWO team considers air emissions, cultural/biological disturbances, waste generation, potential for recycling/reusing resources, and activities that may contaminate surface water, stormwater or groundwater.

“Rod, Steve, and their crews are of critical importance to the mission of INL,” said Jim Graham, F&SS program environmental lead. “The fact that they can accomplish work of this magnitude, while minimizing environmental impacts, is to their credit. I have yet to see a single instance where SWO employees were not conscientious and wanted to ‘do the right thing’ within the bounds of those environmental requirements applicable to the job, and invoked from the myriad that are out there.”

## Benchmark

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