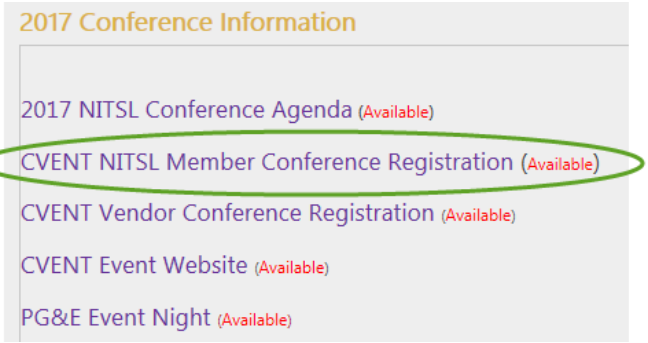
May 2017 NEWSLETTER

NITSL establishes a forum to provide leadership and strategic guidance for information technology in the nuclear industry

Conference Registration is now open!

Visit the Conference webpage at https://www.nitsl.org/Conference to find links to the agenda, registration, event night and hotel reservation information.

You should have already received a conference invitation email. If you did not, simply select the link on the NITSL Conference page to register.



Chairman's Corner

Larry Cerier

Happy Spring! This year's NITSL Conference is just around the corner (July 17th thru July 20th). Registration just opened on May 8th and the Conference registration links are available on the NITSL SharePoint. You will also find the Hotel link to the discounted hotel rate. I am very excited about this year's conference and we have a great line up of sessions.

Monday, July 17th, is a day set aside for working sessions for the Standing Committees along with an SQA training session, a Diversity and Inclusion session and a Nuclear Promise session. We wrap up Monday with our annual Welcoming Reception, which is a great time to reconnect with your fellow NITSL members.

Tuesday, July 18th, kicks off the conference with Keynotes from our Host PG&E along with NEI. Tuesday night PG&E is hosting busses to take all attendees to Fisherman's Wharf and North Beach so we can truly enjoy everything San Francisco has to offer.

Wednesday, July 19th, we will have multiple presentations from the four standing committees. This is followed by the NITSL Vendors night where we network with our supporting Vendors and see what new products and offerings they have available. Great food & drink help us celebrate along with the ever-famous vendor prize drawings at the end of the evening.

Thursday July 20th, we wrap it all up with several interesting topics including Small Modular Reactors, Cyber Informed Engineering and How FitzPatrick integrated from Entergy to Exelon in 24 hrs. We close with the ever-popular Door prizes.

I am looking forward to this year's conference and reconnecting with everyone as I hope you are.

NITSL Leadership Members

Executive Committee

- *__Larry Cerier__ (Exelon) - Chair & Workshop Standing Committee Sponsor - larry.cerier@exeloncorp.com
- *__Dan Bierbrauer__ (Southern) – Vice-Chair & I&A Committee Sponsor - djbierbr@southernco.com
- *__Aaron Gregory__ (Duke Energy) – Communications Officer & Cyber Security Standing Committee Sponsor - aaron.gregory@duke-energy.com
- *__Joe Verbout__ (Xcel Energy) – Secretary & Digital Controls Committee Sponsor - joseph.verbout@xenuclear.com
- *__Linda Torunski__ (Entergy) – Financial Officer & SQA Standing Committee Sponsor - ltoruns@entergy.com
- __Kim Corn__ – INPO, Community of Practice, Topical Area Sponsor
- __Lem Grant__ - INPO, Community of Practice, Topical Area Sponsor
- __Cathy Przyjemski__ - NITSL Administrator - cathy.przyjemski@nitsl.org

NITSL Standing Committee Leads

➢ Infrastructure & Applications:

Chair - Kelly Petock (Talon Energy)
kelly.petock@talenenergy.com

Co-chair - Bill Wood (Exelon)
william.wood2@exeloncorp.com

➢ Software Quality Assurance:

Chair - Chris Meemken (STP)
clmeemken@STPEGS.COM

Co-chair - Lynne Valdez (APS)
p.lynne.valdez@aps.com

➢ Cyber Security:

Chair - Matt Coulter (Duke Energy)
matthew.coulter@duke-energy.com

Co-chair - Scott Junkin (Southern)
sjunkin@southernco.com

➢ Digital Controls:

Chair - Kevin Rumbaugh (Exelon)
kevin.rumbaugh@exeloncorp.com

Co-chair - Gus Grousch (Duke Energy)
gustav.grosch@duke-energy.com

Bridging the Gap, Download Our Conference App

We will have a mobile app again for this year's conference. You will be able to download it to stay informed of:

- Who is speaking and where
- What is going on and when it is happening
- Interactive maps on how to get where you need to go
- News and information you can use
- Neat stuff to see and do in San Francisco and how to get there
- Who else is at the conference (network, network)
- Event buzz and conversations
- Who is winning door prizes

The customized app can show you the events, schedule, speakers, other attendees (network, network), vendors, and conference papers. You can post your thoughts so others can see them and even take a picture or two.

The app will go live in early June and conference registrants will get a notification email. You might even win a prize! But, only if you use the mobile app to complete the conference survey.

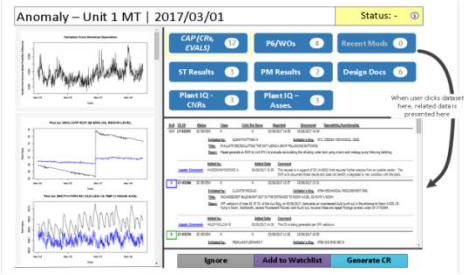
Action Required for Conference Presenters - Pictures & Bios

Presenters, we need your assistance! If you will be presenting during any Wednesday break-out sessions please **send a picture and short bio** to your Standing Committee chair/co-chair. This information will be included in the conference binder and mobile app. The picture & bio are needed by **May 31st.** Contact your Standing Committee chair with any questions.

Conference Demonstration - Delivering the Nuclear Promise with Advanced Analytics

Come and join a demonstration of a new system that uses big data, machine learning, and a specialized dashboard to reveal anomalies in plant equipment. This system uses machine learning to analyze and learn the interdependencies between thousands of plant, system and component parameters. The system then continually monitors

these data inputs in order to detect and alert on incremental changes in plant performance for human analysis. The system couples this analytic engine with an integrated dashboard that provides work history, design change modifications, current scheduled work information, Corrective Action Program information & Equipment Reliability program information for the affected components and systems. A human evaluator is then able to ignore the alert if there is a known cause, such as a plant evolution, or acknowledge the alert and immediately initiate a plant condition report without navigation to a WMS. See this NITSL I&A Committee initiative on an innovative approach to Equipment Reliability on Monday July, 17th @ 1300 in the Cyril Magnin I conference room presented by Idaho National Labs, NextAxiom and APS.



Advisory Member Updates

➢ EPRI Research Update: Distributed Antenna Systems and Low Frequency Radio Transmission: A Cost Saver for Nuclear Plants

As nuclear plants transition to on-line monitoring as a means to better inform and reduce maintenance costs, the need for a reliable, flexible, and cost-appropriate wireless network has become increasingly evident. The main challenge: designing a network that is both frequency- and protocol-agnostic while also being capable of supporting capacity needs of the present and future. While traditional Wi-Fi may seem a logical alternative, the limited coverage achieved by operating at 2,400 MHz or 5,000 MHz requires many Wi-Fi access points. Each access point usually necessitates both a power and Ethernet cable, making for an elaborate design modification at the nuclear plant. Would frequencies below 1,000 MHz allow for better penetration so that fewer access points could be installed?

To answer this question, Electric Power Research Institute (EPRI) completed two pilot demonstrations at shut-down nuclear units using a distributed antenna system (DAS) at frequencies above and below 1,000 MHz. The objective of the testing was to understand signal propagation and demonstrate networking capabilities for wireless communication inside the power block. "DAS is a common technology used to transmit cellular signals into buildings and structures that have poor network coverage," says Nick Camilli, senior technical leader at EPRI. The technology has been used for years in stadiums, cruise ships, mines and office buildings—and even in select nuclear power plants for handheld radios—and has proven to be a cost-effective wireless solution that meets both coverage and capacity needs.

A DAS platform in a nuclear power plant allows handheld radios, cellular devices, including tablets, wireless sensors and other wireless devices, to operate from the same platform—potentially saving plants millions of dollars. A DAS is also frequency and wireless-protocol agnostic; the modular design of a DAS allows for a platform that can meet future needs with minimal hardware enhancements. "Most people associate DAS with cellular phones," Camilli says. "However, this is only one piece of the puzzle. A DAS can support licensed and unlicensed frequency spectrum, which is a game changer for the industry."

The demonstration testing conducted proved the superior penetration of frequencies below 1,000 MHz. EPRI report 3002009128, Use of LTE Cellular Network and Distributed Antenna Systems to Improve Connectivity and Increase Data Transfer: A Plant Monitoring Initiative, details these findings and provides DAS implementation guidance. EPRI will continue to build on the DAS platform to optimize its use at nuclear and other power-generating facilities. As the industry moves to remote monitoring and installs a host of wired and wireless sensors, utilities will need a plethora of wireless sensor frequency and protocol options. "Our current focus is on wireless sensors that operate at frequencies below 1,000 MHz," Camilli says. "The industry needs wireless sensors that operate on cellular LTE and LoRa bands and unlicensed ISO frequency bands, specifically 433 MHz and 915 MHz." At the end of the day, one

wireless solution won't provide the industry the flexibility or capability needed; utilities will use all available frequency bands as they build out their wireless networks.

EPRI is committed to expanding the application of DAS technology and promoting the development of sub 1,000 MHz sensors, so it has installed a DAS laboratory. "We have set up our own DAS lab so that utilities interested can bring in commercially available or prototype wireless sensors and test communication/operation with the DAS." Camilli says. This allows for testing and refinement of wireless sensors prior to plant installation.

For more information, please contact Nick Camilli at 704-595-2594 or ncamilli@epri.com.

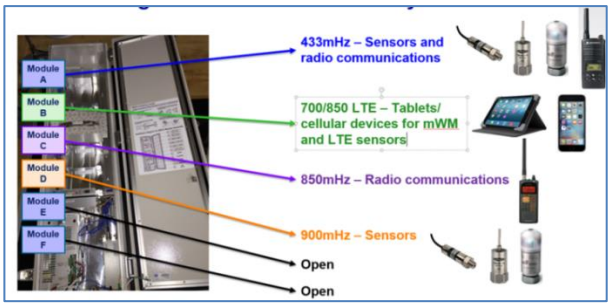


Figure 1: Modular DAS platform configured for power plant applications

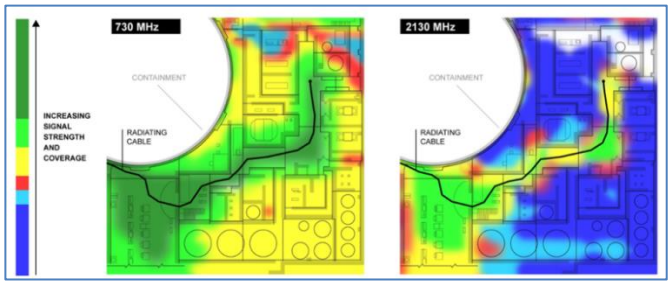


Figure 2: Signal coverage comparison of 730 MHz vs. 2,130 MHz frequencies inside a nuclear facility

Standing Committee updates

The following are updates from our Standing Committees on their 2016-2017 goals and initiatives. We welcome all of the new committee members and thank you for your input and participation. Please invite others in your organization who you feel would have an interest or add value to these groups. Each committee facilitates a monthly call to provide updates on activities and share operating experience at their utility. Feel free to contact any of the committee chairs/co-chairs for more information or visit our SharePoint site for call-in information.

Cyber Security Standing Committee

The NITSL Cyber Security Standing Committee (CSSC) is making progress on the four initiatives for the 2016-2017 period. In addition to the NITSL CSSC initiatives, the committee members are working on developing a presentation regarding integration of cyber security into the design engineering processes. As we approach our milestone 8 commitment dates for implementation of the cyber security program, the focus shifts to evaluating compliance with the Cyber Security Plan and preparing for NRC inspections. This year, the Cyber Security Working Group Session on Monday will include panel presentations with the NRC to discuss the inspection products/processes, as well as guidance for determining inspection readiness and CSP compliance.

Note that the cyber security working group session during the conference on Monday morning is a **closed session**, only open to NITSL Industry members. The afternoon session will be open to all conference attendees. Below is a description of the cyber security Monday working group session:

Monday NITSL Cyber Security Morning Session (0800 – 1200): **THIS IS A CLOSED SESSION, OPEN TO NITSL INDUSTRY MEMBERS ONLY**

The morning session will provide a forum for the NITSL industry members to discuss various topics related to cyber security program implementation. Including cyber security implementation challenges and successes; ALNOTS implementation status and program demonstration; NEI 08-09 Revision 6 Addendum 1 implementation and a Q&A session.

Monday NITSL Cyber Security Afternoon Session (1300 – 1700):

The afternoon session is open to all conference attendees. The afternoon session is focused on milestone 8 compliance and inspection readiness. This includes CSP implementation compliance assessment; strategy for CDA remediation post milestone 8; and SDP revision and strategy.

The CSSC will be meeting Wednesday afternoon to elect a new co-chair and select initiatives for the 2017-2018 period.

Software Quality Assurance Standing Committee

➢ Conference Update

The SQA Standing Committee has been busy working on four initiatives. Three of these initiatives offer to make the industry more efficient; therefore, supporting "Delivering the Nuclear Promise."

➢ Information Sharing

One of the information sharing topics is the Classification Methodology / Matrix. The NITSL and INPO SQA guidance documents discuss software classification methodology. However, utilities have developed their own classification schemas. The team sent out a survey to all the member utilities in February to gather the information to be placed in the matrix and shared on the NITSL website.

The matrix will compare the utilities classification categories and criteria to those in the NITSL guidance document. This will also be used to assist with using the shared "Master Software List

Speaking of Master Software Lists - that is another initiative the SQA Standing Committee has been working on. A master software list is being developed to allow the member utilities to easily upload/update and their SQA software inventory indexes in a standard format with other utilities on the NITSL Website.

With this information it would be possible to contact a utility regarding specific software in use when questions arise either prior to purchase or during the management of the software. This could also be beneficial during the research phase to see what others are using for particular tasks.

The SQA Standing Committee also found benefit in sharing SQA procedures and self-assessments. The NITSL website has several areas where this information can be hosted and shared.

➢ Upgrading your QA program after all these years

Palo Verde Nuclear Generating Station has been operating for 30 years. The last time the station QA plan description was overhauled was in 1990.

In 2016, the Nuclear Regulatory Commission approved Palo Verde's new QA plan description based on ASME NQA-1 2008 with the 2009 addenda. This is the latest ASME Nuclear Quality Assurance Standard to be accepted for use by the NRC. Palo Verde is the first operating utility to move to this edition of the ASME standard.

What did that mean to the SQA programs at Palo Verde? Tune in at the conference to find out.

Infrastructure and Applications Standing Committee

➢ NITSL SharePoint Site Enhancements

Earlier this year we upgraded the NITSL site to SharePoint 2013 as a stepping stone to performing enhancements for a more professional look and better user features.

Mike Peutl (Exelon) is leading a multi-utility team that are making changes to the NITSL SharePoint web site and is supported by Tim Agen (Xcel Energy), Gilbert Cosme (APS) and Bruce Gordon (APS).

Some of the changes will be focused on updating the public facing and the conference information pages so they appear more modern and professional. The plan also includes updating the navigation on various pages so perusing the web site is easier. The end goal is consistency and manageability so administration going forward is simpler than it has been in the past so communication to the industry can be optimized. Any suggestions for additional adjustments to the site are welcomed! Contact Mike @ michael.peutl@exeloncorp.com

Estimated Project completion will be prior to the conference in July 2017.

Digital Controls Standing Committee

The DCS subcommittee will be presenting the following topics during the subcommittee meeting at this year's conference. If you have interest in these presentations or would like other topics to be discussed please reach out to the subcommittee Chair Kevin Rumbaugh or Co-Chair Gus Grosch. We are looking for more Digital Controls engineers and IT members to support the monthly Subcommittee teleconference meeting. The meeting takes place the 1st Wednesday of each month from 2-3pm CST.

Email Kevin Rambaugh if interested in attending: Kevin.Rumbaugh@exeloncorp.com

2016-2017 Initial DCS Initiatives:

1. Improve Interface with industry groups and define the overall DCS scope, mission, and direction for now and into the future.
2. Continue to develop long-term roadmap for data historians
3. Virtualization for process systems

NITSL Conference DCS presentation titles.

1. Using Virtualization to Reduce Cost and Address Obsolescence – Shervin Pirestani - Exelon
2. Long Term Roadmap for Data Historians – Gus Grosch – Duke/Craig Crandall - Exelon
3. PPC Systems System Lifecycle Planning – Paul Carlson – Exelon
4. Analog Control System Upgrade to Digital Project Overview – Kevin Rumbaugh - Exelon

Industry News & Articles

Reducing Nuclear Plant O&M Costs through On-Line Monitoring

Nuclear power plants must reduce operating and maintenance (O&M) costs in order to remain as a viable source of base load electricity generation. One area that can support this need is increased utilization of On-Line Monitoring (OLM), which has shown success in the fossil generation industry. Therefore, EPRI has initiated a cross program 'Plant Monitoring' initiative comprised of the Instrumentation and Controls, Plant Engineering, and NMAC programs. The goal of the Plant Monitoring initiative is to reduce operations and maintenance (O&M) costs through monitoring to replace (or extend the intervals of) preventive maintenance and surveillance tasks. The initiative is divided into five topical areas which are discussed below.

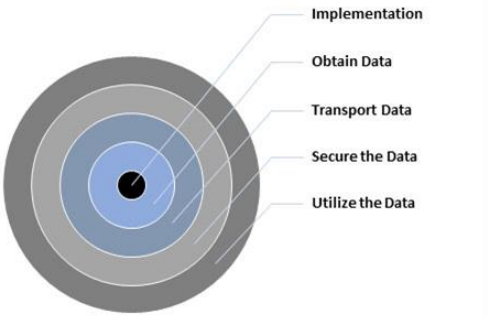


Figure 1: Plant Monitoring Initiative Focus Areas

Implementation:

EPRI is developing guidance on the development of plant monitoring programs. This guidance will cover such areas as; establishing goals, project scope, business case, IT requirements, Implementation planning, resource requirements, communication plans, training, etc. This guidance will be published in report 3002010577 "Guideline for Developing a Nuclear Plant Monitoring Project Execution Plan" (May 30, 2017).

In addition, this work will include guidance for methods and practices to identify plant equipment to be monitored based on historical preventive maintenance costs and what parameters need to be monitored by sensors based on equipment failure mechanisms. This evaluation can support extending or eliminating some preventative maintenance tasks.

This process will be published in report 3002010579 "Developing a Technical Basis for Using On-Line Equipment Condition Monitoring to Reduce Time-Based Preventive and Predictive Maintenance" (May 30, 2017).

Sensors:

Sensors, used throughout the nuclear energy industry, are primarily wired technologies. However, in recent years, digital and wireless sensor systems have presented new options for monitoring plant processes and equipment that

offer implementation flexibility and online monitoring capabilities. A technical report is being developed that is intended to educate nuclear personnel on wireless sensors for plant equipment condition monitoring applications and provide guidance to the industry on wireless sensor implementation.

The report will provide a high-level overview of popular wireless standards and protocols, research work on wireless sensors conducted by national laboratories and universities in the U.S. and abroad, sensor technologies currently on the market, Electromagnetic Compatibility (EMC) risks and mitigation techniques, and sensor selection guidance. Look for the Sensor Specification report to be delivered first quarter 2018.

Data Transport:

Key industry initiatives, such as equipment monitoring and digital workers, depend on a combination of a wired and wireless infrastructure to support these needs. However, the installation of conventional wireless networks has proven costly with limited coverage and functionality. Wi-Fi technologies (as designated by IEEE 802.11a, b, g, and n) that operate at 2.4-GHz and 5-GHz frequencies have been impractical in large industrial applications due to the high cost and complexity of installation. This has created a need for alternative wireless network solutions with fewer components and broader coverage.

Report 3002009128 "Use of LTE Cellular Network and Distributed Antenna Systems to Improve Connectivity and Increase Data Transfer: A Plant Monitoring Initiative" investigates the use of cellular long-term evolution (LTE) networks and distributed antenna systems (DASs) to amplify and distribute radio frequency into nuclear power plants. DAS technology has been used extensively in large hotels, sports stadiums, subways, cruise ships, mines, and other industries for many years and has proven to be a cost-effective wireless solution. As such, two pilot demonstrations were conducted at nuclear facilities to investigate use cases for DAS and understand the platform's capabilities. The report presents all findings from the pilot demonstrations and DAS implementation guidance.

Cyber-Security:

The complexity and uncertainty of cyber security considerations have limited effects which are dampening the widespread implementation of new technologies in nuclear power plants. To assist in mitigating these effects, EPRI published report 3002008206 "Cyber Security: Isolation for Maintenance, Monitoring, and Diagnostic Applications in Nuclear Power Facilities" in November 2016. This report presents several segregation and segmentation concepts and techniques that can be utilized by site and fleet cyber security, engineering, and information technology support personnel. These concepts and techniques guide the crafting of data flows with characteristics that achieve the data and system isolation objectives which promote confidence in the integrity of critical data and control actions.

Data Analytics:

The nuclear industry has been successful in using APR systems to identify changes in equipment performance, but there is a need for improved diagnostics and prognostics of this data. EPRI developed the Fleet-Wide Prognostics & Health Management (FW-PHM) software for this reason, and here are multiple commercially available data analytic tools in the area.

As part of the EPRI Plant Monitoring projects, performance testing of the PHM diagnostics functions will be completed at the EPRI M&D Monitoring Lab. This testing will utilize actual Plant Information (PI) data, which will include plant equipment failures. The results of this testing will be published in a report the 1st quarter of 2018. In addition, the project will utilize plant data for evaluation of other data analytics tools being developed.

For more information, please contact Christopher Kerr at 704-595-2710 or ckerr@epri.com

or Nick Camilli at 704-595-2594 or ncamilli@epri.com

The Risk of Using a Public Phone Charger

Can a phone really get hacked by plugging it into a public USB charging station?

If you have ever backed up your phone's contents by plugging into the computer, you have seen how the USB port can transfer data as well as charge the device's battery. The concept of "juice-jacking" has been proved at hacker conventions and seen in the wild, and it is definitely possible to transfer malicious software with a phone through a USB connection — perhaps from a computer or device concealed within a public charging station, like those found in airports or malls.

If you are traveling and are concerned about keeping your phone's battery charged, bring your own USB cable and AC adapter so you can plug right into a regular power outlet. You can also have a USB battery pack to bring along when you expect to be away from an outlet for long periods of time.

Other solutions for protecting your phone include taking (or making) a power-only USB cable that lacks the internal wiring needed to transfer data. If you do not have one of those cables, power off the device before you plug it into a public charging port (although this is not a foolproof solution for every phone model out there).

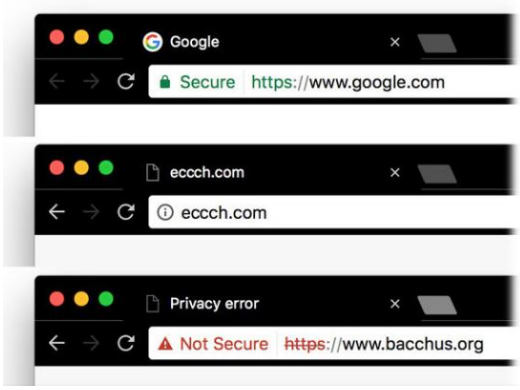
Last year, the Federal Trade Commission warned consumers against connecting a personal smartphone to the entertainment system through a USB port or Bluetooth wireless link in a rental car. This is because the dashboard software can import and store data from your phone, like your call logs, messages, contacts and locations you requested from the GPS software.

The F.T.C. suggests using the car's electrical port and a compatible cable to charge the phone instead of plugging into the USB port. If you do connect to the car's system, remember to delete your device's information from the dashboard settings.

Source:
https://www.nytimes.com/2017/05/10/technology/personaltech/the-risk-in-using-a-public-phone-charger.html

Checking a Websites Security

The web is full of sites that do not use the strongest security, and some browsers — including Google Chrome and Mozilla Firefox — now warn users when the page they are visiting may put their information at risk. In Chrome, that "i" symbol indicates a site may not be secure because it is using an unencrypted connection to exchange data with your computer. When you click the "i" on the left side of the Chrome address bar, you can see more information about the site, adjust some settings and possibly see a "Your connection to this site is not secure" warning.



As you may have noticed from online shopping, sites with secure connections use a form of the Hypertext Transfer Protocol Secure technology to encrypt data between their web servers and your computer; this helps protect your credit-card number and other personal information from being intercepted by someone else. These sites also have a security certificate from a presumably trusted authority that verifies the website's identity and protects it from being modified. You typically see a padlock icon and a URL that starts with https:// when you have a secure connection.

Chrome labels sites that use a plain Hypertext Transfer Protocol connection (http://) without the encryption factor as "nonsecure," because a third party could intercept your information — or the site could be masquerading as something else; try adding an "s" to the end of the http:// prefix to see if the site has a secure version. Sites that Google considers dangerous because of major security lapses or possible malicious intent get a red alert triangle in the address box, and sometimes a full-page warning.

Google announced in September that it was "moving towards a more secure web", and Mozilla recently added insecure-password warnings to the Firefox browser. Many sites around the web (including NYTimes.com and other news organizations) have also switched to https:// connections to improve user privacy and security.

Source:
https://www.nytimes.com/2017/04/25/technology/personaltech/website-security.html

NuScale Commissions Second SMR Simulator

In December, NuScale submitted the first-ever SMR design certification application to the US Nuclear Regulatory Commission, for the design of its SMR and for a power plant containing 12 NuScale modules capable of a total facility output of 600 MWe (gross). On 15 March, the NRC accepted NuScale's application. The first commercial NuScale power plant is planned for construction on the site of the Idaho National Laboratory for Utah Associated Municipal Power Systems and operated by Energy Northwest.

The new simulator, located at NuScale's Richland, Washington office, serves as a virtual nuclear power plant control room with work stations to simulate the operation of a NuScale SMR module, turbine generator and support systems used to generate electricity.

Carl Markert, NuScale Power's vice president of Operations and Plant Services, said the system provides comprehensive monitoring and control of all plant systems for a 12-unit NuScale power plant in a single main control room.

NuScale joined with Energy Northwest and UAMPS in 2013 to promote a commercial SMR project in the western USA. Energy Northwest holds first right of offer to operate the project.

Mark Reddemann, CEO of Energy Northwest, said the new simulator will provide "an invaluable training environment for plant personnel".

In the same NuScale statement, Senator Sharon Brown said having the simulator in Washington will help her "make the case" for SMR technology with the public, members of the media and other lawmakers. Brown is the sponsor of several measures aimed at making Washington more attractive to SMR manufacturers, including Senate Bill 5475, which would provide a business-and-occupation tax incentive for the production of SMRs.

NuScale announced in August 2012 the commissioning of its first control room simulator, at Oregon State University in Corvallis, Oregon. That simulator scaled up a test facility that has been in operation at the university since 2003.

The fully factory fabricated NuScale Power Module is an integral reactor vessel surrounded by a high-pressure steel containment, which when coupled to its factory fabricated power generation equipment can produce 50 Mwe of electricity.

Source:
http://www.world-nuclear-news.org/NN-NuScale-commissions-second-SMR-simulator-10051701.html

Summer Plant Construction Progress Continues

Construction of Summer unit 2 began in March 2013, with work starting on unit 3 in November 2013. The units are targeted for substantial completion in April 2020 for unit 2 and December 2020 for unit 3. Scana subsidiary SCE&G is required to make quarterly reports to the PSC under the provisions of the state's Base Load Review Act (BLRA), which applies to the construction of power plants by all regulated electric utilities in the state.

Recent schedule information from Westinghouse suggests that the project remains on track to achieve the substantial completion dates within the 18 months contingency period provided in the order establishing milestones for BLRA monitoring purposes, SCE&G said. "[T]hese dates will be re-evaluated in light of [Westinghouse's] historical inability to achieve forecasted productivity and work for efficiency levels and in light of [Westinghouse's] bankruptcy filing]," it added.

As of 31 March, the project's engineering phase was 96.0% complete, with procurement 88.2% complete, construction 34.3% complete and start-up activities 8.6% complete. These figures are weighted and aggregated to deliver the total percentage completion of 64.1%. During the

quarter, the last of the project's four steam generators and two of unit 2's four reactor coolant pumps (RCPs) were received on site. The remaining RCPs for unit 2 are completed and awaiting shipment, while the RCPs for unit 3 are undergoing final assembly and testing.

SCE&G told the PSC it is still evaluating whether or not to complete one or both of the units following Westinghouse's 29 March bankruptcy filing. The company told the PSC it expects to complete its evaluation, which will assess the relative merits of completing both units, cancelling or deferring both units, or completing unit 2 and cancelling or deferring unit 3, during the second quarter of this year.

The company has not yet validated Westinghouse's revised estimate that it will cost about $829 million more to complete the units than Westinghouse will be entitled to charge SCE&G under the EPC contract for the project. Damages that could be claimed under the EPC contract are capped at a level of 25% of payments already made at the time that a breach of contract occurs.

"The cap currently stands at approximately $940 million, which exceeds the amount of additional cost reflected in [Westinghouse's] unvalidated estimate," the company said. Westinghouse's payment obligations under the EPC contract are guaranteed directly by Toshiba.

Westinghouse is willing to continue to support the project in areas such as engineering, procurement, testing, licensing, start-up, cyber security and records administration, SCE&G said.

"SCE&G is analyzing what support [Westinghouse] might provide going forward and what resources would be required to continue the project without [Westinghouse] in the lead role," the company said. An assessment of damages due from Westinghouse for the anticipated breach of the EPC contract, and Westinghouse and Toshiba's ability to pay for those damages, would be an important component of its cost analysis for the completion of the units, it said.

Source:
http://www.world-nuclear-news.org/NN-Summer-plant-construction-progress-continues-0805177.html

Give people C.R.A.P to improve employee retention

C.R.A.P - caring, respect, appreciation and praise. Giving people C.R.A.P is at the heart of driving employee loyalty and retention.

The four elements of C.R.A.P are simple, but not necessarily easy.

Caring. People know if you care about them or not. There is a vibe that is given off if you don't care. Leaders are there for their people when they need them and stand by them when times are tough. They are available to listen and to talk to their people when their people need to talk.

When your people need you, they need you right away. If you put them off in their time of need, the likelihood they will come to you in the future drops off considerably. Make time for them so you can understand their problems and help to solve them. Your people will love you for it.

Respect. Everyone deserves it, at least until they show that they are not worthy of that respect. Micromanaging people is one of the greatest signs of your respect for them. It sends the message you don't trust them or their ability to get the job done. Micromanaging is one of the biggest reasons people quit their job. It is frustrating and, in your heart, you know your boss does not trust you if you are being micromanaged.

Another element of respect is wanting the best for your people. It means you are in it for them; not just you. The best bosses know that if their people grow that they might ultimately leave but they know that it is the right thing do and that their role is to help you succeed.

Appreciation. You can't get the most out of your people if they never hear when they do things right. With the mantra of continuous improvement, we certainly hear when we need to do things better or have done things wrong. Without appreciation, people get beaten down and don't want to come to work. A little appreciation goes a long way towards keeping people fired up and energized about what they do. How hard is to say "nice job" when someone gets you that report on time?

Praise. Praise takes appreciation to the next level. Praise is designed for when people exceed expectations, not just do their jobs. When someone does a good job, they do need appreciation. When they exceed expectations, they need to hear that is was a big deal, they hit it out of the park and that they made a huge difference to the organization. Is that going to offend some of the average performers? Perhaps, it will but that's just the way it is. We need people to realize that when they do great things, we will take note of those great things and make a big deal out of it.

This is simple stuff but it is not easy to do for some reason. It takes time and hard work on the part of a leader to give people C.R.A.P. But, if you do it, your people will be loyal, follow you anywhere and want to stay working for you. Giving your people C.R.A.P. will also give you a feeling of accomplishment and the impact on the organization will be something that goes beyond the bottom line. Remember, C.R.A.P. works!

Source:
http://www.smartbrief.com/original/2017/05/give-your-people-crap-if-you-want-great-employee-retention

Safety Minute - Tips to Help You Avoid Fatigue

As IT Workers, we typically spend a significant amount of time sitting at desks and working on computers. Here are some tips to help avoid fatigue.

1) Make sure that the weight of your arms is supported at all times. If your arms are not supported, the muscles of your neck and shoulders will be crying by the end of the day.

2) Watch your head position, and try to keep the weight of your head directly above its base of support (neck).

3) Don't be a slouch! Slouching puts more pressure on the discs and vertebrae of your back. Use the lumbar support of your chair and avoid sitting in a way that places body weight more on one than on the other. Move your chair as close to your work as possible to avoid leaning and reaching. Make sure to "scoot" your chair in every time you sit down.

4) The monitor should be placed directly in front of you, with the top no higher than eye level. The keyboard should be directly in front of the monitor so you don't have to frequently turn your head and neck.

5) Talking on the phone with the phone receiver jammed between the neck and ear is really bad practice. You know that's true, so don't do it!

6) The keyboard and the mouse should close enough to prevent excessive reaching which strains the shoulders and arms.

7) Avoid eye strain by making sure that your monitor is not too close, it should be at least an arm's length away.

8) Take steps to control screen glare, and make sure that the monitor is not placed in front of a window or a bright background.

10) If you notice yourself rubbing your neck, stretching your back, or blinking your eyes, perhaps it's time for some on-the-job exercise. Any physical task you perform over and over again can encourage pain and injury.

11) Several exercises and stretches like deep breathing, head rotations, elbow presses, shoulder rolls, body bends and leg pulls can be done at your desk and will help combat on-the-job aches and fatigue.

12) Carpal tunnel syndrome is a painful disorder caused by stressful, repetitive hand motions. Stretch your fingers, hands and forearms on a regular basis to reduce the threat.

13) Take short vision breaks every half hour or so to help relax your eyes. Close your eyes for 1 minute, take breaks to focus on objects at least 20 feet away or perform 'deep winks' by tightly closing your eyes for several seconds.

Try these tips and exercises to help keep pain and fatigue out of your workplace.