Leading the way in Nuclear Information and Records Management

Inside NIRMA

magazine

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♦ 1996 NIRMA Scholarship Award,
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Critical to be Digital

*Digital more critical in a pandemic world.*

*What you need to know to fix that*

ST Imaging/nextScan

Microfilm Conversion—Do It Right the First Time

*e-ImageData’s DRFT Scanning Technology is the latest trend in microfilm digital conversion*
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Can’t access physical records during the Coronavirus pandemic? Productivity doesn’t have to come to a screeching halt.

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The world has been turned upside down in 2020. The COVID-19 pandemic has shaken us to our core and has forced many of us into a new way of working. Thankful to be “essential” and that we still have our jobs, many of us must reinvent the way we perform our tasks.

Previously, working from home seemed somewhat unprofessional or something from a different generation. But when forced into conforming into a new way of getting the job done, our human ingenuity took over and we were able to adapt.

How have you had to adapt? While at first the video chatting and Zoom calls seemed very awkward and foreign. After some time, a familiarity has emerged, we know what to expect. Professionally, Microsoft has developed many platforms to allow organizations to work virtually together. Teams allows for the collaboration between team members online. OneDrive was developed by Microsoft to provide access to anyone’s drive of documents online. No need to lug around an external hard drive or multiple USB drives. Microsoft also developed Sharepoint to allow files to be shared virtually between team members. The accessibility of these virtual documents creates the virtual office environment and allows the work to continue.

So how do you access the files that pertain to completing your job? Where are those assets? Many documents we had grown accustom to accessing were no longer available to us during the pandemic. Those physical assets would be very

Continued on next page.
Today there is VirtualFilm software that allows users to work remotely with virtual ribbons of microfilm just how they would have worked with the real rolls of microfilm, without having access to the physical roll. Here is how it works. Once a roll of microfilm has been digitized, it is placed onto a secure server or into the cloud. The next time a request comes in for information, instead of accessing the physical roll, a remote user simply logs onto the server to access the virtual roll. Now they quickly navigate to the desired information. With the information located, the user downloads the digital file and is able to share. Anyone with the proper credentials can access virtual rolls of microfilm. VirtualFilm also has the ability to store images from paper and other electronic document sources providing unified content management and digital reformatting capabilities to your existing digital archives.

Working in the time of this modern pandemic, and what the future may hold, is a challenge to us all as we learn to juggle all aspects of our lives. Being an “Essential Worker” has its demands. In the times of uncertainty, we want to be there to help restore some normalcy. And if that is through accessing your records, we want to be able to make that happen for you.

One method of ensuring the continued growth of our industry is to share strategies and processes with others. NIRMA plays an important role in sharing information with our industry. Recently, we shared lessons learned from different utilities as they address the COVID-19 pandemic. NIRMA reached out and solicited information that was valuable to our industry. We will have sessions on lessons learned and how we can continue to implement process improvements in the area of digital technology that will continue to drive change in our industry.

Now is the time to register for the conference to ensure your spot. Looking forward to hearing from you soon.
Did you know that any member of the public can comment on NRC draft regulations and guidance documents, including you?

The NRC’s regulatory process includes five main components:

1. developing regulations and guidance for our applicants and licensees,
2. licensing or certifying applicants to use nuclear materials or operate nuclear facilities or decommissioning that permits license termination,
3. overseeing licensee operations and facilities to ensure that licensees comply with safety requirements,
4. evaluating operational experience at licensed facilities or involving licensed activities, and
5. conducting research, holding hearings to address the concerns of parties affected by agency decisions, and obtaining independent reviews to support our regulatory decisions.

The following developmental activities under the first component are defined as:

- **Rulemaking**: developing and amending regulations that licensees must meet to obtain or retain a license or certificate to use nuclear materials or operate a nuclear facility;
- **Guidance**: developing and revising guidance documents, such as regulatory guides, standard review plans, and NRC’s Inspection Manual to aid licensees in meeting safety requirements;
- **Generic Communications**: information about regulatory requirements, some of which require response; and
- **Standards**: working with industry standards organizations to develop consensus standards associated with systems, equipment, or materials used by the nuclear industry so that these standards may be referenced in NRC regulations or guidance.

The NRC affords the public opportunities to comment on proposed rules and policies, licensing actions, and draft technical documents. Toward that end, the NRC announces public comment opportunities in the Federal Register, through press releases, and on our Documents for Comment page. All public comments are placed in the NRC’s Agencywide Documents Access and Management System (ADAMS) as public comments and into a docket for the action on Regulations.gov.

If you visit our website, www.nrc.gov, and click on the tab for “Public Meetings and Involvement”, and then the “Documents for Comment” link, you will see all of the documents that are open for public comment. Those documents include:

- Rulemaking-Related Documents
- License Applications/Amendments
- Generic Communications
- Draft Regulatory Guides for Public Comment
- Draft NUREG-Series Publications
- Policy Statements
- Draft Interim Staff Guidance
- Information Collections
- Other Documents for comment

You can even subscribe to page updates by clicking on the envelope immediately above the “Documents for Comments” title on the page.

The NRC considers public involvement in, and information about, our activities to be a cornerstone of strong, fair regulation of the nuclear industry. We recognize the public’s interest in the proper regulation of nuclear activities and provide opportunities for citizens to be heard. We encourage your participation and comments.
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THE MICROFILM SCANNERS OF CHOICE WORLDWIDE
**Microfilm Conversion—Do It Right the First Time**

*e-ImageData’s DRFT Scanning Technology is the latest trend in microfilm digital conversion*

It was once thought that ribbon scanning was the only way to ensure that 100% of the images on a roll of microfilm would be captured. Since the recent introduction of e-ImageData’s Do it Right the First Time (DRFT) scanning technology, this archaic thinking has fallen by the wayside.

Ribbon scanning is a “do-it-quick, fix-it-later” process that was considered to be the fastest way to do microfilm digital conversion. We all know the old adage – “There’s never enough time to do it right but always enough time to do it over”. Such is the case with ribbon scanning. Although the scanning step in ribbon scanning is fast, the subsequent post processing steps of straightening, cropping, adjusting, and rescanning can take many times longer than the scanning step.

*e-ImageData’s ScanPro® All-In-One™ conversion scanner features DRFT scanning technology that ensures images are straightened, cropped and adjusted on the fly eliminating the post processing steps required with ribbon scanning. The All-In-One was developed to fill the need in the marketplace for a microfilm digital conversion tool that is versatile (scans both roll film and fiche), simple to operate, saves time, and at a cost that is a small fraction of that of ribbon scanning equipment.*

With DRFT scanning technology, ScanPro All-In-One users enjoy:

- √ Total Image Capture | Scans 100% of the images
- √ Saves Times | Your job is 99% done
- √ Saves Money | A small fraction of the cost of ribbon scanning equipment
- √ Versatile | Scans roll film and fiche
- √ Secure | Portable, allowing secure in-house scanning of confidential documents

“e-ImageData’s DRFT scanning technology is a paradigm shift in digital microfilm conversion. What once required hardware and software costing $50,000 and more is now available in a ScanPro All-In-One costing less than $7,500. Stay connected with us to see our progress as we will soon have a web-based viewing option that will allow web access to all your scanned document images.”

Todd Kahle, Vice President of e-ImageData

By Todd Kahle, Vice President of e-ImageData

“e-ImageData's DRFT scanning technology is a paradigm shift in digital microfilm conversion. What once required hardware and software costing $50,000 and more is now available in a ScanPro All-In-One costing less than $7,500. Stay connected with us to see our progress as we will soon have a web-based viewing option that will allow web access to all your scanned document images,” says Todd Kahle, Vice President of e-ImageData.

**Myths in the Microfilm Digital Conversion World**

**Myth #1:** Ribbon scanning is the only way to ensure all images are scanned.

**Reality:** e-ImageData’s DRFT scanning technology not only scans 100% of the images on a roll of film, but it also straightens, crops, and adjusts brightness and contrast for...
each image on the fly, eliminating the time-consuming and costly manual fixes.

**Myth #2: Ribbon scanning reliably captures all images.**

**Reality:** Although ribbon scanning does scan 100% of the images on a roll of film, the entire roll is scanned using a fixed brightness and contrast setting. Consequently, due to the inevitable contrast and brightness variations of document images on film, ribbon scanned images are frequently unreadable resulting in the need for re-scanning.

**Myth #3: Ribbon scanning is the fastest technology to digitize your microfilm.**

**Reality:** Ribbon scanning does scan the film at a high rate of speed however, when the ribbon scanning step is finished, your work has just begun. The ribbon scanned images are not cropped nor straightened, nor have brightness and contrast adjustments been made. These post processing steps can take many times longer than the scanning step.

e-ImageData’s DRFT scanning technology gives you the ability to scan with confidence, knowing all your images are scanned and easily available. Don’t take our word for it, see the ScanPro All-In-One in action! Schedule a virtual or in-person demo today! For more information, please visit our website at www.e-imagedata.com.

e-ImageData’s DRFT scanning technology:
Do it Right the First Time!

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**Treasurer Report**

**NIRMA’s Financial Holdings**
**As of: June 19, 2020**

Anita S. Beren
NIRMA Treasurer

- **Checking Account**: $33,102.22
- **Money Market Account**: $112,524.02
- **Debit Account**: $1,149.37
What a year 2020 has been for all of us as we adapt our workplaces to social distancing and use technology to bring us together virtually! Whether you attend in person or participate virtually, NIRMA welcomes you to register for the **44th Nuclear Information Records Management Conference (August 2-4)** at a deep discount of $500 which includes your 2021 NIRMA membership fee. Technical session speakers will pay only the $250 membership fee for next year. Registration is open now on the [www.nirma.org](http://www.nirma.org) website to include a link to the group rate for hotel reservations at the JW Marriott Las Vegas Resort.

NIRMA will soon have a full-featured Conference app available for registered attendees to access all the conference details and to launch the virtual sessions. At this time we are reconfirming the conference speakers to be in-person or to present virtually (without travel). The vendor exhibit area is also under discussion for fresh ideas this conference, to possibly offer NIRMA vendors a different experience to promote their products through video or in-person.

The **JW Marriott** continues to be a great partner to NIRMA. They are allowing us to return to the larger Marquis Conference area that we have used in the past. Originally, NIRMA was shifting to the Palms Executive Conference Center, but that is being deferred to support more space for social distancing of attendees.

The JW Marriott property is implementing extensive changes for everyone’s safety in light of the COVID-19 concerns:

- Restaurants on property are removing 50% of seating in support of social distancing.
- No buffets anymore. Any food receptions and appetizers will now be handed to you by banquet staff. Conference meals will be sit-down plated or boxed lunches, etc. Increased cleaning everywhere.
- Conference area is blocked off from any casino traffic. The plan is to have only three ways into the conference space from the outside and have required temperature checks.
- Everything will be more spread out for distancing; there will be one-way aisles for walking.
- The Pool will be reopening by end of month. The Hotel reopens July 1. There will be no daily maid service in the rooms; everything is provided to you up front and you can later get more towels, etc. There will be a one-day delay before next occupants after rooms are cleaned.

We look forward to a terrific lineup of speakers and topics!

**Conference Date:**
August 2-4, 2020

**Event Highlights:**

- **CANCELLED - Educational Opportunities** for signup Saturday, August 1
- **Opening Day Keynote, plus ICRM Prep & Fundamentals track** Sunday, August 2
- **Welcome Reception (food & beverages)** early evening, Sunday, August 2
- **Vendor Spotlights & breakout presentations (TBA)** Monday, August 3
- **Keynotes, Technical Sessions & Benchmarking** Monday & Tuesday, August 3-4
- **NIRMA Business Unit Virtual meetings** Wednesday, August 5 (tentative)

Continue checking the NIRMA website at [www.nirma.org](http://www.nirma.org) for details and to register for the conference. We look forward to your participation whether in-person or virtually! 🛠️

**CLICK HERE TO REGISTER**
Here are many things driving information governance these days like regulatory and legal compliance, data loss, increases in data-related incidents, poor email governance, and now the remote workforce due to COVID-19. I think the remote workforce will strongly take hold and become more of the norm as a result of COVID-19 and as leadership become more aware that many workers can perform as well, if not better, at home than in the office. (This may be a topic for another article.)

One of the greatest challenges in all of this is how to manage vital records properly, in a way that they are accessible to the remote workforce. Preservation of vital records comes in many forms. Many of us are familiar with using scanners for paper documents, but there is much more than that, especially when it comes to the nuclear industry. There are operations manuals, drawings, microfilm, and microfiche to deal with as well. Given the nature of the information related to the nuclear industry, and the regulatory guardrails within which they operate, security is also a primary concern. We know that conversion can be done on premises or outsourced in ways that physical media is shipped to a facility, converted, and then returned or destroyed if allowed once the digital version is validated. The focus then turns to information governance, providing the guidance or rules of operation in relation to information and process management.

### Information Governance Framework

Information Governance (IG), according to Cheryl McKinnon, Principal Analyst with Forrester, is "A holistic strategy for using and managing information to meet business objectives. Information governance assures the quality of content and data, maximizes its value, and ensures that security, privacy, and lifecycle requirements are met". So, when we look at this definition, we find that the role of IG is to align business information in support of the business goals. In order to do this properly, there must be an IG framework (IGF) defining the business rules and processes to be used in relation to business information.

The IGF describes organizational document management (DM) practices within a legal, regulatory and business context. It is a way to standardize the manner in which electronic documents are managed from the time they are captured or created, until the time of their disposal. While this may sound like a records management approach, it is an approach that is much needed across all information and not just records, in order to ensure consistent, effective, and defensible practices are used across the enterprise.

Included in the IGF are elements that include how information is to be structured as in a taxonomy, established retention periods based on document types and business requirements, defined security levels and access controls, Metadata for various purposes like findability, and disposal procedures that provide guidance on proper disposition of non-vital information. Additionally, the IGF may include technology use, preferred document formats, and mobile device use. It should also include preservation, how preservation efforts will be managed, who is responsible for preservation and what is deemed preservation worthy. (In some cases there may be no regulatory, legal, or value reason to preserve older information.)

### In My View

It is up to the business leaders to help formulate, support, and enforce governance policies and practices across the enterprise and throughout the information lifecycle which includes long term preservation. It is also beneficial for leadership to
The 44th Annual Nuclear Information Records Management Conference will be held on August 2-4, 2020.
As we are looking to the 45th anniversary of NIRMA next year, in this issue’s article, I am musing about Symposia and Conferences of years past - the locations, activities, and events that made coming to an annual NIRMA gathering professionally rewarding and personally edifying.

In 1986 I was hired by Stone and Webster Engineering in Boston, MA, after a 3-year stint with Middle South Utilities (now known as Entergy Corporation, New Orleans, LA). A bit of a culture shock, but heck, it was another rung on the ladder of my career. I embraced the “get the work, do the work, be billable” mentality. I joined the Records and Information Management Services (RIMS) Division and I was fortunate to come under the mentorship of the division manager, Dana Oman. Dana was one of the key propelling figures of the emerging Nuclear Records Management Association in the early 80’s (the “I” inserted later that makes it NIRMA today). At the time, Dana was on the Board of Directors and President of the Association.

Dana was instrumental in initiating my career involvement in NIRMA, “making me go” in 1987 to my first Symposium (that’s what the Conference was called back then) that was hosted by Southern California Edison in Long Beach, CA. In those days, NIRMA had significant support by the host utility; the logistical costs were borne by the utility as a goodwill gesture, so NIRMA could use the income from Symposium registrations for other uses. There were probably 350-400 attendees that year; I was a bit intimidated in rubbing shoulders with directors or vice-presidents in which the records management organization fell under. Back then, a wide range of plant “statuses” were represented – operating plants, those under construction, those in start-up. There was a certain aura of professionalism combined with a sense of the “wild, wild west!”

NIRMA in the 80’s and 90’s would change locations, sponsored by the local electric utility. Thus, NIRMA Symposia moved around to cities such as Boston, MA; Chicago, IL; San Francisco, CA; Charlotte, NC; Denver, CO; Orlando, FL; and Knoxville, TN, to name a few. In recent years, of course, we have enjoyed our home away from home in Las Vegas, NV.

Many of the elements of NIRMA that you see today were started in those early days – multi-track sessions, vendor exhibits, catered meals, networking opportunities, and committee work. What’s changed over the years is mostly the “how”; the “what” (requirements, the business problem) remains the same. The topics back then resonate today – what are the quality assurance issues, what’s a record, how do you identify...
it, what process(es) do you use, how do you get
management to recognize the work you’re doing, and
how does records management fit into plant
operations and configuration management. Of course,
the changes in technology that support the processing
have been dramatic – from mainframe-based CICS
terminals and paper or film to web-based multi-tiered
or cloud-based solutions linked to scanned or born-
digital PDF/A-based documents and images. I
remember presentations and discussions in the late
80’s of the “pipe dream” of having the data-exchange
and technology infrastructure for an integrated plant
information management system; I have the quiet
satisfaction of consulting and implementing solutions
that are making it happen today.

Another big difference in the “how’s” from
back then to today is in the networking. A key benefit
of NIRMA that has stood the test of time is forming
relationships with peers in the industry. Being able to
associate a face and a voice with someone you can ask
a question of, or be able to benchmark operating
experience, is huge. Back then, networking was done
through several means – a “night out” (Long Beach:
Queen Mary; Charlotte: Charlotte Motor Speedway;
Milwaukee: The Milwaukee Zoo); ad-hoc large group
dinner gatherings at local restaurants; vendor-hosted
hospitality suites; and the occasional closing out of hotel
bars!

I did my first paper/presentation the following
year. I had completed an enterprise strategic application
and data management plan for the Los Angeles
Department of Water and Power and thought the
results could point to similar efforts in the nuclear
industry. Back then, we had to submit an actual paper,
complete with formatting rules for typesetting; we
actually published proceedings! Overhead projectors
were all the rage, and I took that extra step in creating
colored transparencies! Woo-hoo, I was “cool”.
Subsequently, I presented anywhere from 1-3
presentations annually, using overhead transparencies,
35mm slides, and finally digital (Lotus Freelance and
Microsoft PowerPoint).

When I reflect on my career and my time with
NIRMA, I’d have to say that I am grateful for catching
the technology transformation wave of moving from
paper to electronic. It’s been very rewarding! In the
next issue, I’ll be discussing a topic near and dear to my
heart – committee work!

Eugene has been a member of NIRMA for over 33
years. At the time he joined, NIRMA had only been
in existence for 11 years. He would love to hear
about stories and anecdotes from others, so please
email him at:
eugene.yang@kismetconsulting.com.

1989 Case Study

**Abstract**

Environmental requirements for nuclear utilities have
increased dramatically in recent years. Failure to
achieve these laws and regulations can lead to permit
renewals, radiation safety, civil and criminal
prosecutions, expensive lawsuits, and even
bankruptcy. One of the most serious impacts of this
problematic requirement is the burden on resources
to collect, manage, and distribute hazards data
necessary for compliance with these mandatory
laws.

This paper will show models and information
management how to use the latest optical technology to
solve this challenge. It will show, in practical
terms, how an environmental manager can implement a program that
tackles new trends in optical technology, and
computer-aided information management to effectively

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**Usage of Optical Technology for
Managing Hazardous Materials Reporting – A Case Study**

**Introduction**

The goal of this paper is twofold. First, to illustrate
how advanced optical technologies and database
management can support environmental compliance
and simplified, automated, and 24/7 management.
Second, to describe an integrated information management
approach to these increasingly complex activities.

Before embarking on an integrated environment
management system for support, one should implement a program that
integrates manual processes, optical technologies, and
computer-aided information management to effectively

**NIRMA Conference, 1979**
Certainly all of our members know about the annual NIRMA Conference where we are invited to come to Las Vegas and learn from industry experts about any number of topics relevant to our profession. Over the course of the past year, the Membership and Marketing Business Unit (M&MBU), the Professional Development Business Unit (RIMBU), and the Board of Directors have been brainstorming, discussing, developing, and even implementing new ways to increase the value of your membership within NIRMA. While the annual conference along with monthly emails and magazines is of supreme value to many of us, it is not the only value NIRMA wants to provide its members. We want to take a moment to share what has been in the works for all of us.

Questions began to arise about how different facilities are handling a number of tricky topics when many of us were forced to quarantine at home due to COVID-19. Various questions were posed to a group of experienced NIRMA members and many quality answers were provided to them. We have been emailing our members almost weekly the Q&A topics raised.

At a Board meeting where it was brought up that NIRMA was to have a mechanism for mentoring its members, we realized we had some work to do to implement a program. Over the past several months, PDBU Co-Director, Lou Rofrano, drafted a Mentorship Program where we intend to find willing mentors who will assist in supplying answers and support to NIRMA mentees (those needing assistance) with any number of topics, to include membership or website assistance, how-to do, where can I find, etc. We plan to roll out the Mentorship Program at the conference next month.

We wanted to offer an opportunity to share any topic with industry experts via webinar technology and have developed a means of doing just that. Hopefully, you participated last month in our first webinar presented by Bob Larrivee and Lou Rofrano. After the conference, we hope to be presenting monthly webinars between September and May for years to come.

Recognizing the restrictions that COVID-19 has placed on all of us, we wanted to provide a meaningful conference experience to our members even if many of you will be unable to attend in person. The Board is working on a hybrid version that will include some in-person live sessions from the J.W. Marriott facility in Nevada, to remote speakers broadcasting live from their homes or offices, to pre-recorded sessions to be shared at fixed times during the conference. Education is important to us all, regardless of our travel restrictions, so we are striving to provide it in a variety of manners.

RIMBU members spend considerable time each year reviewing and revising our Technical Guidelines (TGs), writing Position Papers (PPs), and offering them to us all for the simple cost of membership in NIRMA. That means by joining NIRMA, you can acquire any or all of the TGs and PPs for no additional cost.

In the past month, a team within RIMBU and in participation with another organization, Configuration Management Benchmarking Group (CMBG), was asked to review, revise, and update the American National Standard for Guidelines for Configuration Management of Nuclear Facilities. A group of individuals representing various industries within the nuclear profession will be asked to review the proposed revision and vote on accepting it as the newest version of the standard. Stay tuned for results.

There is a lot going on in 2020 and you, our members, are going to be the recipients of all this effort. It is because of you, our members, that NIRMA is expending such an effort. Members are what make NIRMA tick. Members are NIRMA. The Board and Business Units strive to enhance NIRMA’s value to you and your organizations. We look forward to welcoming those of you who can participate live with us in Las Vegas and to encourage those who cannot attend in person to participate virtually.
The Value of Mentoring is a Two-Way Street

Professional Development Business Unit (PDBU) News

Lou Rofrano, PDBU Co-Director

Today, as communication becomes more remote, the processes of learning and development are facing increasing and unprecedented challenges. Onboarding into new roles and responsibilities, dealing with evolving regulatory landscapes, and changes in the way leadership must interact with team members across the organizational charts becomes more complex. All of this requires learning new skills and reinforcing the best practices that have stood both the test and measurement of time on a consistent basis.

New technologies and evolving methodologies mean that both mentors and mentees benefit from the time they spend interfacing with each other. Learning across both directions of the relationship is a key reason we at NIRMA are dedicating time and resources to creating the mentor program. It is a mutually rewarding approach to developing the professionalism within Records Management.

Your mentor gives you a safe non-judgmental but honest source of advice and counsel that has no stake in your actions other than to see you succeed and grow.

Each of us across our career often wishes for an individual we can converse with to act as a sounding board or a guidepost based on experience and success. If we are lucky, that person will emerge as a manager or peer in our own companies. When that happens, the results are often amazing as these individuals help us navigate both our performance and our career. Unfortunately, that is not always the case for a multitude of reasons, and we need someone who can help us consider issues or actions outside of our own organization.

In addition, when we first involve ourselves in the NIRMA experience there are so many opportunities to grow, learn and expand that it can become a little overwhelming. One of the primary objectives of the NIRMA mentoring program will be to make sure that mentees maximize the benefits of their membership and participation in the NIRMA organization.

“How do I navigate the website most effectively?” Ask your mentor!

“My company is considering shutting down one of the plants and I am hearing it could be mine. What will it mean to me?” Ask your mentor.

“I find it difficult to feel fully prepared when I discuss key budget and expense issues with my manager.” Practice with your mentor.

In short, your mentor gives you a safe non-judgmental but honest source of advice and counsel that has no stake in your actions other than to see you succeed and grow. A mentor/mentee relationship can be a priceless asset to you and your career.

In 2020 in conjunction with our annual Conference, we will be developing and delivering our mentor program. Watch for details on how to become a mentor or how to request asking to align yourself with a mentor. We will be sending emails and posting on the website. Stay tuned and we look forward to seeing you either virtually or in person in Las Vegas.
Washington, D.C. – The Nuclear Regulatory Commission voted 4-0 to approve on May 26 the implementation of a more streamlined and predictable licensing pathway for advanced non-light water reactors. This approach is consistent with the Nuclear Energy Innovation and Modernization Act (NEIMA) legislation passed last year by Congress calling for the development of a risk-informed, performance-based and technology inclusive licensing process for advanced reactor developers. The following is a statement on this important milestone by Doug True, Chief Nuclear Officer of the Nuclear Energy Institute:

“A modernized regulatory framework is a key enabler of next-generation nuclear technologies that can help us meet our energy needs while protecting the climate. The Commission’s unanimous approval of a risk-informed and performance-based licensing framework paves the way for regulatory reviews to be aligned with the inherent safety characteristics, smaller reactor cores and simplified designs of advanced reactors.

Over the last several years the industry’s Licensing Modernization Project, sponsored by DOE, led by Southern Nuclear, and supported by NEI’s Advanced Reactor Regulatory Task Force, developed the guidance for this new framework. This modernized approach will inform the development of a new rule for licensing advanced reactors, which NEIMA requires. A well-defined licensing path will benefit the next generation of nuclear plants, which could meet a wide range of applications beyond generating electricity such as producing heat for industry, desalinating water, and making hydrogen – all without carbon emissions.”

Article reprinted with permission of NEI. Read full article here.
Innovation can mean challenging old assumptions. When it comes to nuclear energy, one assumption ripe for rethinking is about size.

Today’s nuclear reactors are very large; one can generate enough carbon-free electricity to meet the energy needs of 735,000 households. They are pillars of our grid.

But not everybody lives on the grid, and in remote places, most electricity comes from burning diesel fuel, which is dirty and expensive. If the place is remote enough, diesel fuel can be hard to deliver. Other electricity customers who are on the grid need an alternate supply in case the grid goes down.

Enter the micro-reactor, compact enough to be shipped by truck or helicopter. Some can be set up in days; all can run for years without refueling.

And they aren’t just smaller versions of today’s models. They use different fuels and different cooling systems. They have few moving parts, can vary their output automatically to meet changes in demand and run without a crew of human operators.

In March, one developer, Oklo Power, released substantial details on its design, when it applied to the U.S. Nuclear Regulatory Commission for permission to build a demonstration model, planned for the Idaho National Laboratory.

Oklo said that its Aurora powerhouse would provide 1.5 megawatts of electricity. That’s a little more than 1 percent of the capacity of a reactor on the power grid today. But the Aurora could also provide heat for other purposes, which U.S. grid-scale reactors typically do not do, but would be very useful in the off-grid arctic.

Because of its inherently safe design, the Aurora does not require operator actions, or on-site operators. Its safety relies on natural forces. The reactor module would be installed underground, with an A-frame building on top that would have space for community use.

The A-frame is not entirely for show; it will support a crane that can be used to move fuel and equipment. But the building is intended to make an attractive addition to a rural settlement, serving as the main point for community interaction.

The fuel is richer in atoms that can be split to make energy, so it can last 20 years. The fuel runs cooler and can’t get hot enough to damage itself, partly because the core is so small. The material that transfers heat from the reactor to the part of the plant that makes electricity is different, too: it’s carbon dioxide, so the system is smaller and lighter.

Oklo, a Silicon Valley start-up, is’t alone in developing a new reactor; Companies like Bill Gates’ TerraPower, GE Hitachi Nuclear Energy, Kairos Power, X-energy and others are also preparing designs. Some are start-ups and some have substantial experience in big reactors.

But Oklo is the first to submit an application. And there is another distinction.

Today, to build a reactor, both the design and the site have to be included in the application to the NRC. But Oklo, although it has sites lined up, says that with a design that is so small and able to operate without water, that there is a very small environmental impact for both the construction and operation. And since the Aurora will often be displacing fossil fuels, the powerhouse will provide an environmental benefit to the local community and to the planet.
COVID-19 Response Fast-Tracks New Maintenance Strategies

By Paul Day

Just before an essential fact-finding walk-around was set to begin as part of the decommissioning work at the Windscale Advanced Gas-Cooled Reactor (WAGR) in the northwest of England, Prime Minster Boris Johnson ordered a country-wide lock down in response to the pandemic.

Contractors had been called in that same week to design temporary works to conduct recladding inspections and refurbishment, but that work was quickly parked after the lockdown was announced.

And the only available information for the plant was out of date and potentially unreliable.

Fortunately, Atkin’s Digital and Technology leads Darren Grears and Sam Stephens had spent the previous two years forming a digital transformation strategy for the group’s nuclear and power business and that work put them in a unique position under the new restrictions.

“The plants were built decades ago, and all the information is in the wrong format for digital innovation. Everything is on bits of paper and even translated from microfiche, so if you want that information, you need to get the reality on the ground as it is now; we use laser scanners and 360 degree cameras for up-to-date imagery that will de-risk the job,” says Grears.

“Our strategy was to never leave site without a 3D model.”

Using the digital technology that had been collected by Grears and Stephens, the contractors’ inspection and walkthrough could be completed while at the same time workers observed social distancing measures.

“Under COVID-19 guidelines, with social distancing as required and with just one person, we could do the virtual walkthrough that they were planning on doing, bring all that information back and provide access to the teams for them to plan the temporary works, see the site area, look at the constraints and essentially be there,” says Grears.

The scanner is able to retrieve information up to about 10 mm accuracy and can scan a three story car park in less than 30 minutes, a leap ahead from the traditional method of engineers walking around the site with a pencil, notepad and a digital camera.

The Art of the Possible

The nuclear industry has always resisted certain changes, with new digital technology clashing with the old analogue systems and with high levels of information security surrounding inventories, waste, and fuel. But the unusual circumstances made the new techniques a necessity.

Continued on next page.
“As an organization we’ve planted the seeds of what is the art of the possible with all of this technology and I think that’s why we’ve been so successful when the lock down hit and our ability to respond because the seeds were already planted,” says Grears.

Using the new technology, one person working with specially developed user guides performed two laser scans of the entire building under two hours with some 116 images taken.

Atkins haven’t been the only company turning to new technologies and new methods of working in order to ride out the pandemic.

“We’re three months in to the pandemic and that has gotten some of us working via teleworking, which has never been the norm in nuclear but our workforce is realizing that is an option and so we’re looking at how we can provide this flexibility into the future,” says Carol Barajas who holds the dual role of Vice President of Nuclear Oversight at Tennessee Valley Authority and as COVID-19 lead for TVA nuclear.

The pandemic hit just before a routine outage of TVA’s Sequoyah Nuclear Plant in Tennessee and Barajas says the outage was delayed so that TVA could look at how other utilities were handling the situation and put additional mitigating actions in to place.

“Nuclear is pretty rigid. We have a set of standards and follow those standards but COVID-19 has given us the flexibility to make changes or take ideas from our workforce and implement them to try to keep our workforce safe,” she says.

Bring in the Drones

The pandemic has also pushed the use of drones for TVA inspections with a manual inspection of a condenser – several workers and a camera – replaced by a drone and qualified operator, a method Barajas believes is likely to be repeated.

“It saves time and it saves radiation dose depending on where you’re performing the inspection. So, I see this as a solution that we’re going to continue to pursue. Where it makes sense, we will apply it,” she says.

The simple shake up of the traditional system has also helped focus teams.

Bruce Power’s Major Component Replacement (MCR) project has seen setbacks of up to a couple of months due to the pandemic, but it has also forced the company to rethink how it would continue with the project as it adds more precautionary measures with less people.

“In fact, we are more productive during this COVID-19 outbreak. Mainly because we have to plan in lots of details and have been very intrusive on how workers spend their 10 hours on site in terms of work so we have improved out range time … We’ve lost time but have increased preparation which will pay dividends down the road,” says Eric Chassard Bruce Power Executive Vice President of Projects and Engineering.

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Inside NIRMA Magazine is published three times annually.

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