Someone You Should Know; Meet Nick Touran

What Makes a True Microfilm Conversion Scanner? nextScan

Row Your Boat: A Journey to RIM Certification
Jessica Jones
What Makes a True Microfilm Conversion Scanner?  
By Matt Anderson, nextScan/ST Imaging

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By Kaycee Jaeger, e-ImageData

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By Manuel Bulwa, Integrated Scanning of America

NIRMA’s Power of Giving; *Taking Steps to End Pancreatic Cancer*

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Chronicles of NIM: *A Retrospective on Information Management in Nuclear Power*  
By Eugene Yang, KISMET Consulting
Letter from the Editors

We at Inside NIRMA, value your opinion and are always looking to improve our magazine. Let us know what you like and dislike and what you’d like to see more of. Share your thoughts with our Communication Team at DevereauxInc@outlook.com.

If you haven’t already done so, please take a moment to follow NIRMA on X (formerly Twitter) and Instagram, like NIRMA on Facebook, and connect with NIRMA on LinkedIn.

Thanks for reading. Please keep in touch!

Neal and Sandra Miller
Editors

In addition to our own articles, Inside NIRMA publishes guest articles from agencies and vendors. Please be advised that the views and opinions expressed in these articles are those of the authors and do not necessarily reflect the opinions of NIRMA or its Board of Directors.
What an unbelievable organization we are part of. There are so many activities going on in the Business Units and amongst the Board members. M&MBU has developed a letter to invite and encourage non-members to join NIRMA. Under new leadership in 2024, PDBU is elevating and revising elements of the Mentorship Program and has been providing exciting educational opportunities via the NIRMA Webinar Program. RIMBU held its Spring Meeting and discussed a variety of regulatory topics. A correction to Regulatory Guide 1.28 was submitted to the NRC and was immediately implemented by them. A slate of candidates has been arranged by the Nominating Committee. Very exciting times around NIRMA this year and you will be reading about some of the new ideas in this month’s magazine.

It won’t be long until the 48th Symposium begins and the Board has been working hard this year to bring you an excellent one. With that being said, we encourage everyone to make sure to attend this year as we will have a very special announcement to make at the end of the symposium. We believe it is something you are going to want to hear and will really enjoy what we have in store. Mum’s the word until August 7th. We hope this intrigues you to come … besides the excellent speakers who will lead and educate us.
The 2024 Nuclear Information Management Symposium (August 5-7) and Business Unit / SIGET Meetings (August 8) at the spectacular JW Marriott Resort and Spa in Las Vegas, Nevada are just weeks away. Once again, we have a mixture of seasoned (mature) and brand-new (vibrant) speakers and topics lined up for you.

General sessions will include:

- Numerous standard Fundamentals sessions, including Electronic Records, DC, RM, Federal Regulations
- Nuclear Reactor 101
- Special Interest Group for Emerging Technologies (SIGET) session
- Electronic / Digital Signatures Benchmarking
- Utilities and Government Updates & Benchmarking
- Digital Transformation, A Promised Revolution in the Nuclear Industry
- One Hanford Approach for Records Management
- Plant Outages
- Secure Cloud Shift: Simplified Cloud Strategies for Nuclear ECM
- ICRM Panel Discussion
- Robotics in Nuclear
- and so many more.

Following the sessions, we will have a Welcome Reception on Monday and the Exhibitor Hall Reception will be going strong on Tuesday. All are part of your paid registrations, as well as membership dues for 2025.

Registration for the Symposium and hotel reservation links are available here. We encourage you to come for our 48th gathering. Once again, the Symposium will be well worth your while to attend.
THE BEST JUST GOT BETTER

Introducing the next generation of multi-format conversion scanning, the FlexScan+ from nextScan.

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*Simultaneous Scan, Audit, Index, and Output for increased efficiency.*

**EXPAND PRODUCTIVITY**  
*Enable maximum workflow with 5 standard workstations. Optional remote capabilities.*

**FINE DETAIL NATIVE IMAGE RESOLUTION**  
*High precision optics combined with proprietary lighting technology deliver unmatched native image resolution quality.*

---

**Auto-Focus**  
*Streamline workflow with a hands-off approach with auto-focus technology. No need for adjustments, the FlexScan+ captures each image clear and legible.*

**Reliable Image Capture**  
*Ribbon scanning technology from nextScan ensures media is scanned top-to-bottom, and end-to-end, capturing every piece of information on the film.*

**High-Resolution Images**  
*Proprietary lighting combined with LUMINTEC® technology and high-precision optics capture raw detailed images, expanding the ability to see fine details within the original record.*
What Makes a True Microfilm Conversion Scanner?

By Matt Anderson
Vice President of Sales and Marketing, nextScan

Using the right tools for the job is not only common sense. It is a necessity. This is particularly true in the world of microfilm scanners. There are two distinct kinds of microfilm scanners, each with its own variations. The key differentiator is how images are captured, a crucial factor in achieving the best results.

Before we talk about technology, let’s talk about how scanners are used. On-demand scanners are good for when you want one or a few images from a roll or fiche immediately and the remaining images on the media are not of concern for now. Conversion scanners, on the other hand, are well suited when you want the entire roll or fiche in a digital format for use now as well as later. While it is possible to use either type of scanner in either use case, it is crucial to use the right tool for the job. Let’s explore why.

On-demand scanners use an area image sensor similar to what you have in your digital camera or cell phone. This image sensor captures a square or rectangle as one point in time. It is why it is ideal for creating images one by one.

Conversion scanners employ a unique method to capture the medium. To ensure a true digital representation of the film, the scanner must continuously scan edge-to-edge and end-to-end. Currently, the only way to do that is to use a “Line Scan” image array, a feature of nextScan's technology. This precise type of camera scans one line of pixels at a time. The moving film is fed past the image sensor and is captured with a synchronized strobing light field, ensuring every detail is accurately preserved.

The line scanning technology provides two essential benefits over area image sensors for conversion: speed and accuracy. Both are critical for the true conversion of microfilm.

Line scanning technology offers a significant advantage in conversion speeds, capable of scanning up to 2000 images per minute. This unparalleled efficiency makes it a formidable tool for large-scale microfilm conversion projects, ensuring your project is completed on time with nextScan's solution.

For an accurate conversion, you must scan every pixel of data available. Area scanning only captures what is in front of the sensor at one moment. Line scanning collects every piece of data contained in the film.

nextScan’s customer support team has encountered several customers who have experienced the limitations of an on-demand scanner when attempting to convert entire collections. An on-demand microfilm scanner with an area sensor, marketed as a conversion scanner, was unable to perform the conversion task. Customers were

Continued on page 8.
falling behind in their conversion jobs with mounting frustration. After several unsuccessful attempts and unanswered support calls about the on-demand scanner, these customers turned to nextScan for a reliable conversion solution.

In one instance, a customer was running six (6) on-demand scanners for a small conversion job but was not seeing satisfactory results. Within a month of installing a nextScan® FlexView™ conversion scanner, the customer was happy, and their project had been completed. This could only have been achieved using a nextScan line scanning solution.

This situation is unfortunately common. Customers are sold on a low-cost, on-demand scanner promising conversion capabilities. Sadly, they wind up spending time and money, sometimes adding multiple of these scanners, only to find they still need a conversion scanner.

Not all microfilm scanners are created equal. If you are in the market for an on-demand microfilm scanner or looking at a conversion scanner to digitize your entire archive, make sure to do your research on the scanner you choose. You don’t want to have the wrong tool for the job. The microfilm experts at nextScan and ST Imaging work together to ensure you have the right tools to address your needs.

SIGET is the “Special Interest Group on Emerging Technologies” that was created by NIRMA to research new technologies and enable the assessment of how a specific technology could impact information and records management practices in the nuclear industry.

The Nuclear Industry is actively pursuing technologies to improve accuracy and efficiency. Many organizations have departments specifically for Innovation. Some of these technologies include:

- Automation for fire carts, inspections (with drones, robotics, and submersibles), Radiation surveys.
- Security
  - Deliberate analytics
  - event sensors
  - robot security
  - Artificial Intelligence

Come talk to us at the 2024 NIRMA Symposium and share what innovation concerns you in the role of information and records management?

For additional information or questions on anything mentioned above, please contact nirma@nirma.org.

By Stephen Fleshman, M&MBU Director

nextScan is a U.S. registered trademark, and FlexView is a trademark, of Digital Check Corp., the leading worldwide provider of check scanners and peripherals for the banking industry. nextScan and ST Imaging are divisions of Digital Check Corp. that provide world-class solutions in microfilm reading and conversion and related software technology.

SIGET

By Stephen Fleshman, M&MBU Director

- Automation for fire carts, inspections (with drones, robotics, and submersibles), Radiation surveys.
- Security
  - Deliberate analytics
  - event sensors
  - robot security
  - Artificial Intelligence

Come talk to us at the 2024 NIRMA Symposium and share what innovation concerns you in the role of information and records management?

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By Stephen Fleshman, M&MBU Director
I recently had the pleasure of sitting in on a video call with Nick Touran, Ph.D., P.E. As I listened to him talk, I kept thinking “I have got to feature him in Inside NIRMA magazine.” He is, without a doubt, one genius of a guy, as you will find out.

Among other things, Nick runs a website and a YouTube channel called What Is Nuclear. I am excited to share that Nick gave NIRMA permission to reprint his material from What is Nuclear for Inside NIRMA magazine, which will now be a regular feature. I think you will find this an incredibly worthwhile read.

Sandra Miller
Inside NIRMA Editor

More about Nick

Nick is a nuclear engineer who joined the field specifically to help fight climate change. He has expertise in nuclear reactor design, development, and history.

After training at University of Michigan, he spent over a decade in Seattle working professionally on neutronics analysis, core design, business development, software development, and configuration management. He has a Ph.D. in nuclear engineering, based on the multi-objective optimization of fast reactors using perturbation-based equilibrium cycle methods and is a licensed professional engineer.

Nick has been active in public education around nuclear since 2006 as the founder and sysadmin of whatisnuclear.com, and by speaking on radio shows (including Science Friday), podcasts, and at local schools, coffee shops, breweries, etc. He also wrote and published an intermediate-level computer book called Digital Superpowers.

Nick has recently found a few really interesting old nuclear pamphlets on ebay and has been scanning them and posting them with little summaries, including:

- The Yankee Rowe Story
- Construction of the Sodium Reactor Experiment
- Aqueous Homogeneous Research Reactors and more!

Click here to visit What Is Nuclear site.

Click here to visit What Is Nuclear YouTube Channel.
Parents' memories of the Chernobyl disaster
By Natallia Pinchuk

A note from Natallia (the translator)
I don’t remember much about Chernobyl’s accident because I was very little — only 4 years old. My parents, aged 44 and 47 at the time of the accident, my 8 year old sister, and I lived in Gomel (Belarus), located less than 100 miles north of Chernobyl. So I asked my parents to write what they remember about the accident. My father was a professor at a local university, my mother was an engineer.

My Memoirs, by Adam Pinchuk, a local university professor who lived near Chernobyl

In the first days after the Chernobyl accident there was neither news nor information about the accident from governmental organizations. People already knew something from many other channels: from phone calls of relatives living in the accident zone, from railway workers, from messages from the Scandinavian countries. I knew about high radioactivity in the area the next day because the equipment used by my students to measure the density of minerals with radiation in the laboratory read "off scale" all the time. Besides this equipment, there were only three advanced intermediate-level radiation meters in the city. Two of them were taken by .... service\[1\]. All other detectors were designed for very high measurements in case of nuclear war. In a few days, we received Gorbachev's message about the accident.

Despite of it, the country continued to prepare for the celebrations and demonstrations of May 1st\[2\], I had re-read radiation safety regulations and decided not to let you out of the apartment whenever possible. Then your mom and I made the decision to send you to Nizhni Novgorod\[3\]. Gomel prepared simultaneously for both celebration and evacuation, openly and actively for the first, secretly and silently for the second.

The information that you and your sister were leaving school was reported to the district communist party committee and I was threatened that I shall be held responsible for spreading panic. Weather in the end of April and beginning of May was sunny, wind was blowing north\[4\]. I remember maneuvers of planes, which precipitated clouds to prevent their movement towards Minsk and Moscow.

In the beginning of May we were waiting for another explosion, but fortunately it did not occur. After the holidays they had started to form groups for liquidation of consequences in southern cities. They washed houses, trolley buses, buses and sidewalks, and cut the upper layer of the soil from lawns.

Here data of measurements in mR/hr:

<table>
<thead>
<tr>
<th>Date</th>
<th>On the street near our house (mR/hr)</th>
<th>On your thyroid (mR/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 29th, 1986</td>
<td>3500</td>
<td>350</td>
</tr>
<tr>
<td>May 1st</td>
<td>2500</td>
<td>250</td>
</tr>
<tr>
<td>May 5th</td>
<td>1800</td>
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<td>1100</td>
<td>110</td>
</tr>
<tr>
<td>May 20th</td>
<td>500</td>
<td>50</td>
</tr>
</tbody>
</table>
and further slowly decreasing. In the forest near our country house on May 3rd - 100 mR/h. The bus we took - 2500mR/h.

In Ukraine, a southern hundred-kilometer zone of villages was being evacuated (so stupid!). They dug trenches and pushed houses into them and then filled up the trenches.

The total radioactivity released was $5 \times 10^7$ Ci. 70% of all emissions settled in Belarus. The height of the emissions was 1 to 1.5 km. The main nuclides emitted were plutonium, strontium, cesium, iodine. Emission of gases and aerosols stopped basically by May 6th, and in five days all had settled on the ground. In the first days air masses were moving in northwest direction. More than 41,000 people live in territories with contamination of $10^{-4}$ - $10^{-2}$ Ci/km$^2$ right now. The main source of contamination now is the consumption of contaminated foods, not external irradiation.

The increase in diseases (practically all kinds of illnesses) has been registered. The reason for this is mainly weak immune systems, but mostly it is respiratory diseases, thyroid diseases, and cancer.

Memoirs of mom (I cannot recall that time without tears). By Vera Pinchuk, an engineer who lived near Chernobyl

It was on Friday, April 26th, 1986. I was on the sick-list with you. You had the chicken pox. But this day I for the first time decided to walk you on the street. It was sunny and hot. We walked around 11 a.m. to the store through a courtyard. I do not remember what we bought, but I lost my watch, it simply slipped from my hand. But I had no time to think about it because Alain came from school and your dad was coming shortly and I had to prepare dinner. When he came the first thing he said is that I had to wash all of your and your sister’s clothes. He mentioned Chernobyl. We looked at the map - just a small town somewhere in Ukraine, but close to Belarus.

Soon we had a device that could measure radiation. We began recording measurements. I surveyed your sister’s clothes before and after washing. The difference was dramatic. After April 26th there was a long weekend and people certainly used it for getting out camping or just spending some time outside. On Monday everybody had started talking about the accident. The press was keeping silent. Then the first news arrived. They said only one person died at the site - burnt alive in the fire and they could not recover the body. Then the number of casualties started to grow. They transported everybody (dead and still alive) to Moscow hospital. They buried the bodies in a cemetery. There was probably a whole cemetery that was radioactive.

The next time I took you to see a physician, I met a woman who brought her children to check for radiation in the waiting room. She had just come from Bragino (she had relatives there). Hoyinki, Bragino, Korma, and Rogachev were especially radioactive. No one could understand anything because radiation was an invisible enemy which caused consequences later. Radio and television were mostly quiet, and if there was news, no alarm was sound. So I sat at the doctor’s office thinking what to do. When it was my turn to see the doctor, I asked him about radiation and told him my concerns. He didn’t give me direct answer at first, but as I kept pushing, he said that if I can I should send you as far away from this place as possible; he also said that one of the signs of radiation exposure is vomiting. When the holiday came, the TV was showing demonstrations in Kiev, bicycle races, and other entertaining events.

Sometime around May 5th there was news about the possibility of a second explosion. I was trying to figure out what to do. By that time Alain was getting sick. She was vomiting every day after returning from school. She was a first grader. We decided to send you to my parents not waiting till the end of the school year.

I submitted my request of a two-week vacation at work. I also told all my co-workers (group of 30 people) to send their children away if they could. My manager did not let me take vacation. I did not know then, that it was strictly forbidden to all managers to release people from work. Then I have asked my manager: "How is your son doing? Is he OK?" He didn’t answer. Then I said: "Well, maybe your son sleeps well, by my daughter vomits every night in bed, therefore here’s my vacation notice and I’m off. I shall be at work on May 18th."

Your dad took me and the two of you to the train. As we traveled to Nizhni Novgorod through Moscow, the train was packed with kids. I was afraid that we would be stopped in Moscow at epidemic control. We had to go to different train stations, and I chose a route to avoid being stopped.

Click here to read the article in its entirety.
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CONVERTING RECORDS INTO DIGITAL FILES

The Importance of Record Conversion

The nuclear industry handles vast amounts of critical documentation, including safety protocols, inspection reports, research papers, and historical records. Many of these documents are stored on traditional physical media, such as microforms like blipped film, which are known for their durability and long-term stability. However, to enhance accessibility, ensure compliance with regulatory requirements, and safeguard against physical damage, converting these records into digital files is crucial.

Benefits of Digital Conversion for the Nuclear Industry

1. **Enhanced Accessibility**: Digital files can be accessed from anywhere with an internet connection, facilitating remote work and collaboration, which is essential for international projects and regulatory oversight.

2. **Improved Searchability**: Digital archives can be indexed and made searchable, significantly reducing the time needed to locate specific documents and ensuring quick access during audits and inspections.

3. **Preservation**: Digital backups protect valuable records from physical threats such as fire, flooding, and deterioration, which is vital for maintaining compliance and historical data integrity.

4. **Regulatory Compliance**: Digital records can help meet the stringent regulatory and documentation standards required in the nuclear industry, ensuring that all necessary documentation is up-to-date and easily accessible.

Steps for Converting Records

1. **Assessment and Preparation**
   - **Inventory**: Conduct an inventory of all records to determine the scope of the project. Prioritize documents based on their importance and usage frequency.
   - **Condition Check**: Assess the condition of the records to identify any that may need special handling or restoration before scanning. This is especially important for older documents.
   - **Metadata Collection**: Gather metadata for each record, including title, date, author, and relevant tags to enhance searchability and ensure compliance with regulatory standards.

2. **Selecting the Right Equipment**
   - **Scanners**: Invest in high-quality scanners capable of handling different types of records. Look for scanners with features such as high resolution, automated scanning, and reliable performance.
   - **Software**: Use software that supports image enhancement, optical character recognition (OCR), and metadata integration to ensure high-quality digital files.

3. **Scanning and On-The-Fly Processing**
   - **Resolution Settings**: Set the scanner to a high resolution to capture fine details. For archival purposes, resolutions of 300-600 DPI (dots per inch) are recommended.

Continued on the page 14.
• **Quality Control**: Regularly check the scanned images for clarity and completeness. Ensure that no pages are missing or poorly scanned.

• **Integrated Enhancement**: Select software that handles all image enhancement on the fly, correcting distortions, and improving brightness/contrast during the scanning process itself to avoid any post-processing work.

• **OCR and Indexing**: Apply OCR to convert scanned images into searchable text. Index the files with relevant metadata to facilitate easy retrieval.

• **File Formats**: Save the digital files in stable and widely-used formats such as PDF/A or TIFF to ensure long-term accessibility.

4. **Storage and Backup**

• **Digital Archives**: Organize the digital files into a structured digital archive. Consider using a content management system (CMS) designed for archival purposes.

• **Backups**: Create multiple backups of the digital archive, including at least one off-site or cloud-based backup to protect against data loss.

5. **Access and Usability**

• **User Interface**: Develop a user-friendly interface with robust search functionality and intuitive navigation to allow easy access to the digital files.

• **Accessibility**: Ensure the digital archive complies with accessibility standards (such as ADA) to be usable by individuals with disabilities.

### Implementing Digital Conversion with e-ImageData

e-ImageData offers advanced solutions for converting records into digital files. Our ScanPro® scanners (link: https://e-imagedata.com/products/) are equipped with state-of-the-art technology, providing high-resolution scans and efficient processing capabilities. With ScanPro scanners, all image enhancements occur during the scanning process, eliminating the need for post-processing. By choosing e-ImageData, your team can achieve seamless and effective digital conversion, ensuring that critical records are preserved and accessible for future generations.

### Conclusion

Converting records into digital files is a strategic move for your organization. It enhances accessibility, preserves important documents, and supports regulatory compliance. With the right equipment and processes in place, you can ensure that your valuable records are protected and easily accessible. Ready to begin your digital archiving journey? Transform your records with e-ImageData today!

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### Treasurer Report

Tammy Cutts, NIRMA Treasurer

NIRMA’s Financial Holdings as of May 28, 2024

<table>
<thead>
<tr>
<th>Account Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking Account</td>
<td>$ 50,183.75</td>
</tr>
<tr>
<td>Investment Account</td>
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</tr>
</tbody>
</table>

Continued from page 13.
Transitioning from a manual or legacy document filing system to an enterprise-wide Electronic Document Management System (EDMS) is a complex process with constantly evolving parameters. As new documents are captured for multiple collections, new challenges emerge that may considerably impact initial assumptions and expectations.

Although the filing structures used manually may have worked adequately for a while, defining an optimal digital indexing structure for various document collections is not a trivial task. Users often request convenient index fields that may be redundant or not normalized, without realizing that each superfluous data item creates a maintenance nightmare. On the other hand, critical index fields may be omitted or misconfigured, reducing the chances of success.

A sandbox is an isolated environment where processes can be executed safely without affecting the surrounding system or application. This isolation motivates users to test and experiment with various digital document representations in a secure setting, preventing any potential harm to the actual system.

For sandboxes to be effective, they need to be intuitive, non-intimidating and easy to use, yet powerful enough to provide comprehensive index-based search and visual search capabilities. This accessibility ensures that users can confidently experiment and innovate without fear of making mistakes. Unlike enterprise EDMS, which often carry inherent complexities and inflexibility, sandboxes must be straightforward, simple and user centric. The protection from user mistakes and the encouragement of experimentation without fear of consequences foster innovation and improvement.

Large volume document capture projects rely on advice from various sources with different and sometimes conflicting perspectives, including IT staff, users, records managers, capture service providers and software providers. A sandbox provides a unified visualization platform previewing how each of their demands would look like in real life.

After achieving a critical mass of captured documents, it becomes essential to perform reality checks. This involves experimenting with different indexing structures to define effective ways to organize and retrieve documents while ensuring that the document capture can scale safely and satisfy the needs of all stakeholders as the volumes grow.

Users can try out variations of index data values feeling as though they are making real modifications. Instead, a read-only sandbox submits these changes to the service provider, who effects the actual changes using professional tools and methodologies, while learning from each change to improve their subject matter expertise on that indexing concept.

Users cannot change indexing structures, but they can request the service provider to illustrate “what if” scenarios and eventually transition from a previous structure to another. Both the user requests and the service provider results are managed using the sandbox.

Sandboxes also help analyze suspicious document capture processes and behaviors. By

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observing how the process operates in isolation, we can identify vulnerabilities, errors, or security risks.

The sandbox logs the entire history of changes, serving several purposes:

**Training Users:**

Providing a comprehensive timeline of past changes and their outcomes help train new users and enhance their understanding.

**Accountability:**

Documenting who made the changes ensures accountability and provides a reference in case of disputes.

**Statement of Work Evolution:**

The recorded history of changes impacts the evolution of the Statement of Work (SOW), protecting users and service providers from contractual liabilities.

A solid sandbox solution ought to be tightly integrated with:

- A comprehensive logistic module tracking boxes of documents across all stages. This reduces user reluctance to release their precious documents for capture and helps the service provider intermingle between physical and digital documents as needed.
- A support mechanism that automates the reporting of diagnostic data and images while creating and logging user support tickets.
- A dynamic SOW/Service Level Agreement (SLA) presentation module that illustrates a timeline of SOW and SLA amendments and their justifications.
- A comprehensive production Quality Control (QC) module, which interacts with the logistic module preventing documents to be disposed or posted prematurely.
- A comprehensive production workflow, used by the service provider to perform its magic in mastering the art and science of document capture.
- An approval module, where users can approve ranges of digitized documents, while keeping a historical log of these approvals. The service provider uses this approval log to compliantly commit approved records to the user’s EDMS.

In conclusion, the sandbox concept has proven invaluable in yearlong projects involving thousands of document containers (boxes with paper or microfiche records, bags with large format drawings, microfilm rolls, etc.). It distributes the burden of responsibility and accountability across the various stakeholders, proportionally to their capabilities and core competencies.
NIRMA’s Power of Giving

We would like to thank Kathi Cole, NIRMA Vice President, for sharing her story of volunteerism with the Pancreatic Cancer Action Network (PanCAN) via the PurpleStride events, which is PanCAN’s biggest fundraising event.

Participation and fundraising support essential research and vital programs like free support, information and resources.

If you volunteer, we’d love to hear from you. Just send us a paragraph on what you are doing and why it is important to you, along with a photo and a description and we will use your write up in a future edition of Inside NIRMA.

Neal and Sandra Miller
Inside NIRMA Editors
DevereauxInc@outlook.com
Neal.F.Miller@gmail.com

Taking Steps to End Pancreatic Cancer

PurpleStride events are hosted year-round in nearly 60+ communities nationwide. Participation and fundraising support PanCAN’s life-changing programs and services for pancreatic cancer patients and their families.

Pancreatic cancer does not stop, and neither do we — this disease affects thousands of patients and their families every day, and we need to continue to fight for them.

Our team, PROUD MARY, strides in honor and memory of Mary Louise Yuhas, Debbie Natali, Mark Wise, Carlos Nicolosi, Les Horsley and Ginny McManigal who were all taken by this dreadful disease.

Our Team has raised $67,000 over the past ten years. We continue to wage hope against this disease...to honor Mary Louise, Debbie, Mark, Carlos, Les and Ginny.

Pancreatic cancer has the lowest survival rate of all major cancers, at just 13%. This deadly disease has stolen our best and our brightest, but it can’t take away our determination.

Every dollar ensures that the Pancreatic Cancer Action Network can continue working to improve outcomes for pancreatic cancer patients and their families. Donations raised are supporting continued research and support for survivors and families of victims of this horrible disease.
Generative AI in Nuclear Records Management

A discussion with Tim Fleet, VP Business Development at Idox

Does Generative AI pose a risk or create opportunities in Nuclear Records Management?

NIRMA’s Annual Symposium

August 5–7, 2024, JW Marriott Resort & Spa, Las Vegas NV
Register at https://nirma.org/annual-symposium

Navigate transformative tides and delve into the world of AI-driven knowledge management in the nuclear domain.

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eim.idoxgroup.com
Desirée Wolfgramm joined Energy Northwest in 2007 as an engineer. She has held a variety of positions, including in Design and Systems Engineering and as Regulatory Affairs manager. She moved to Security Services in 2023 and recently joined the senior leadership team at Energy Northwest as Operations Support general manager.

Desirée is passionate about Science, Technology, Engineering and Mathematics (STEM) and sharing excitement for learning with children in her community and her own six children at home. Since 2013 Desirée has led Kids Engineering Day, an annual community event that provides STEM activities hosted by local companies and organizations for hundreds of elementary aged children. Desirée has been an advocate for nuclear energy for her entire career and has spoken to various audiences promoting nuclear energy across the US.

Nick Touran has a Ph.D. in nuclear engineering and works for TerraPower, LLC. Additionally, he runs a website and a YouTube channel called What Is Nuclear.

See our cover story on page 9 “Someone You Should Know” to learn more about Nick Touran.
ROW YOUR BOAT: A JOURNEY TO RIM CERTIFICATION

By Jessica Jones CRM/NS, PDBU Director

The views in this article are of the author and not representative of any views or endorsement by Tennessee Valley Authority (TVA) or the Federal Government.

Certification is one of the tools I have used to steer my career. Navigating your career involves making informed choices and accepting opportunities as they appear. There are several paths on the river of life, and steering is essential; otherwise, you can get swept away and carried somewhere you didn’t intend to be.

Cartography

I have learned the first part of navigating your career is educating yourself on your options. How can you determine which way to steer without knowing what is around you? I signed up for an Introduction to Archives course during my first semester in graduate school. On the first day, I realized it wasn’t just an introduction to archives; the whole class comprised of students in a particular certification program for archives and records management. At first, I felt out of place, but as the instructor reviewed the program expectations, I learned about the internship requirement. I hadn’t decided what career I wanted up until then, but I knew an internship meant that there was a career path at the end of this education! Instead of dropping the class, I convinced the instructor to let me transfer into the program, and that is how I started on my journey to becoming a records professional.

Even though only one internship was required, I decided to do two internships (both unpaid), one in archives and one in records management. I wanted to experience the records lifecycle and get a feel for the professions. Both were with universities; one was with the University of Florida, where I processed a small collection of a former professor. The second was with the University of Washington’s Records Management Program, which allowed me to work in their records center, tag along to department meetings, and work on the retention schedule. I learned a lot from both internships.

After graduate school, I was lucky enough to get a contractor position with the National Park Service as an archivist. It was a great entry-level project archivist position, and I was able to process many collections for parks in the Midwest Region. After that, I was encouraged to apply for a particular digitization project. I was hired as a federal employee, arranging and describing places on the National Register of Historic Places as a gift to the nation for the National Park Service’s centennial celebration.

Keeping The Paths Clear

I loved working with the collections as an archivist, but my job was tied to a finite project, and I needed to figure out my next steps before the project ended. I wasn’t sure what I wanted to do yet, but I knew I wanted to be in a position to choose. I tried to keep records and information management (RIM) fresh on my resume to pursue either archives or records management. So, to keep my foot in the records management door while working as an archivist, I connected with my records management internship mentor, and she let me continue to work on a taxonomy project remotely as a volunteer.
Educated Choices and Actions

Now that I had the education I needed to make an informed choice on the direction of my career, I chose to adjust my sights and forge ahead with RIM. My reasons for choosing RIM over archives are outside of the scope of this article, but let me say it was a difficult choice and one I put a lot of thought into.

Not only did I decide I wanted to pursue a career in RIM, I did research and decided I wanted to work in the energy industry. Why? Because it is a highly regulated industry, it makes sense that they would see the value in what RIM professionals bring to the table.

Collecting Paddles

Now that I knew the direction I wanted to go, I thought about showing a RIM employer that I was serious about moving to RIM. I did three things to help steer my career toward RIM:

1. I kept records management fresh on my resume by volunteering with my former internship.
2. I started a blog where I wrote articles on RIM topics to show my interest and knowledge.
3. I decided to start the journey to becoming a Certified Records Manager (CRM) to show my knowledge where my work experience fell short.

Starting Down the Path to Certification

There are six parts for those who need to learn about the structure of the certification exams. Parts 2-4 focus on core RIM principles and processes. Part 1 is about management, and part 5 is about technology. Part 6 is an essay-style exam in which you must answer two business cases. You can take parts 1-5 in any order, but you must take part 6 last. You must score 70 or better to pass each exam; if you fail, you find out your score, but if you pass, all you know is that you passed.

Nowadays, you can become a Certified Records Analysis (CRA) by passing parts 2-4, and you can become a CRM by passing parts 1-6. You have five years from when your application is accepted to pass the necessary tests to become either a CRA or a CRM. The CRA was created while I was in the process of becoming certified. However, I decided not to accept the CRA even though I had passed parts 2-4. I wanted the CRM and knew I might get comfortable with the CRA and not continue for the CRM. I could accept the CRA at any time, so I held that option while I tried to pass the necessary tests to become a CRM.

I bought the recommended books, printed off the study guide, and got to work. This was back in 2014 when you had to go to a testing center to take your tests (now you can take them online.) The closest testing center to me was two hours away in Phoenix, AZ, so I drove to the testing center for part 1 and failed; I made a 69. I waited a few months, studied, drove up, retook part 1, and failed again; I made another 69. I decided to try a different test, took part 4, and passed!

Switching to RIM

With these paddles in my boat now, I started applying for jobs. Even though I wasn’t certified then, the fact that I was a candidate in the certification process helped me. I applied for a job as a records analyst for an energy company in Wisconsin and got the job. I moved up there and loved my job and the work.

I took parts 3 and 2 and passed. It wasn’t as far of a drive to the testing center as it was in Arizona, but it was still about an hour away. Having gotten through the core RIM exam parts, I started on part 5 because retaking part 1 felt too overwhelming. I failed part 5, I made a 68.

Then life happened. I got married, we decided to move closer to our families in the south, and I started working with TVA on a team that performed nuclear document control processes.

I knew my five-year clock to become a CRM was almost up, so I gave it one last try. I had to pass parts 1 and 5 quickly to be able to take part 6 before the next-to-last exam cycle that would qualify me. So, I again signed up for parts 1 and 5 and took them on the same day. It was a long day, but I passed!

For part 6, I reached out to the Institute of Certified Records Managers (ICRM) for a mentor. Today, you can get a mentor for any exam part, but back then, you could only get a mentor through the ICRM for part 6. I was paired with a fantastic mentor. She met with me six times and graded about four practice exams, giving me great feedback. Part 6 is an extended answer response, and knowing how to take that exam and answer the questions is very important. I passed the part 6 exam on the first try and was thrilled, because now I was a CRM.

Post Certification

Once I became a CRM, I wanted to give back to the community who supported me in my dreams, so I started grading part 6 exams, and I still do. I am always excited when I read an exam, and I can tell they

Continued on page 22.
have solid RIM knowledge, because I am so hopeful they will get good news at the end of the grading period that they are now a CRM.

In 2020, I started attending the NIRMA Symposium. I had just transferred to the TVA Enterprise Records team and became a business partner to our nuclear fleet. I wanted to learn in the nuclear RIM space and get connected to other professionals and resources. I wasn’t active in NIRMA during my first two years because I attended the conferences virtually and didn’t form connections during those years. However, in 2022, I attended in person, met several people in NIRMA, and was lucky enough to meet some NIRMA members who thought of me when they were picking CRMs and CRAs to speak at the 2023 ICRM Panel. In 2023, I decided to become a mentor for the ICRM exam to help other aspiring RIM professionals. Things have snowballed, and I passed the Nuclear Information and Records Specialist exam to become a CRM/NS this year.

**Slow and Steady**

It wasn’t until I wrote this article that I realized it had been ten years since I started my certification journey. Life happens, things come up, and certification gets put on the back burner. Sometimes, you need more time and experience to pass the tests, like I needed for parts 1 and 5. But I hope you have a takeaway from my story: keep trying. Failure is okay, the most successful people fail the most because that is where learning happens. Sometimes, slow and steady does get you where you want to be.

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**Not-Self Made**

We use a term in archives called provenance, which refers to the context of an item and how it physically relates to the other records within the collection. The item’s origin has meaning, its context is essential, and meaning is created when in relationship to others. I can attribute some of my career success to taking action and making decisions, but the truth is, I would not be where I am today without the help of many people. So many people have believed in me, educated me, supported me, and given me guidance and opportunities. While I may have decided my course, they were the river propelling me forward and opening new paths. I am forever grateful to the friends, family, mentors, managers, and colleagues who have encouraged me. I am still rowing my boat, pursuing my dreams, but along the way, I want to encourage, share, guide, and be a part of other people’s rivers.

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**The Top 5 Reasons to Attend the NIRMA Symposium!**

There are a number of reasons to attend NIRMA’s symposium. We highlight our top 5 here!

1. **Networking** – Amazing opportunity to interface with many in the nuclear and government fields. Most roles in Nuclear require us to network with peers in the industry for Best Practices. Very few industry groups are offering the in-person or virtual opportunities this year that will be at the NIRMA symposium.

2. **Inspiring Keynote Speakers** – Sparking new ideas and motivations and Great Sessions and Educational Opportunity with experts in the industry speaking. Exposure to Records fundamentals and Benchmarking with like-industries and government. Good Interactive Panels dealing with both Nuclear Plants and Government Issues.

3. **Celebration** – Celebrating 48 years of history and the continued success of NIRMA!

4. **Great value** – more bang for your buck compared to other professional group symposiums’ Industry-specific orientation or training sessions. Registration includes symposium meals and next year’s annual membership fee.

5. **Safe and exceptional resort accommodations at the JW Marriott**, making it the perfect location for a high energy symposium while in a rejuvenating spa and resort setting.
PART 1: RETENTION OF ELECTRONIC OBJECTS

A nuclear facility’s quality assurance program is governed by 10 CFR 50, Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” and implemented by the facility through standards compliance to either ANSI N45.2, “Quality Assurance Program Requirements for Nuclear Facilities” or ASME NQA-1, “Quality Assurance for Nuclear Facilities”. In both these standards, there are various types of information listed that document assurance with general retentions of “lifetime” and “nonpermanent”.

Hmm. Bear with my musings…

In the “lifetime” determination, most nuclear facilities use the event-driven retention of “life of plant”. When the first plants started up, “life of plant” was seen as being 25-30 years down the road; newer plants are being licensed to operate for 40 years. Through license renewal, plants are having the “life of plant” extended an additional 20 years; there are some plants that are contemplating getting another license renewal, which may extend the operating life another 20 years.

When the “cease operations” decision does come, and decommissioning commences immediately, such a project will typically take an additional 10 years. (SAFSTOR, however, may place a plant in hiatus for “n” number of years before decommissioning can take place). And, because the issue of a permanent high-level radioactive waste (HLW) repository hasn’t been resolved, plants moved to storing spent fuel and other HLW in dry casks on site. Therefore, an NRC license needs to be maintained to store that nuclear material. Finally, certain records are subject to retention requirements called out by American Nuclear Insurers, which dictate that those records be kept for life of plant plus an additional 10 years.

“Life of plant” is subjective … so, a quality record created at the beginning of plant’s lifecycle, and deemed to be kept for life of plant ..., could be, maintained for upwards of 100-120 years.

“Life of plant” is subjective (is it when operations cease? end of decommissioning? license termination?); so, a quality record created at the beginning of plant’s lifecycle, and deemed to be kept for life of plant (started in hardcopy, but scanned in later – more on that later),
could be, when you add it all up, electronically maintained for upwards of 100-120 years.

Several issues come to mind:

**Data Growth**

Currently, Electronic Document Management Systems (EDMS) in the industry have electronic storage ranging from 3 Tbytes for a single unit plant operating 40 years to whole generation fleets with 80 Tbytes (a Tbyte is a 1 followed by 12 zeros!). That’s 7 million to over 200 million documents and records (object sizes ranging from 10 Kbytes to several Gbytes). This will get larger through:

a) increased integration with record generating systems (e.g., asset management system),
b) b) other digitalization opportunities (e.g., CAD models, non-destructive examination files, smart procedures), and
c) c) digitization of legacy records (i.e., hardcopy and microform).

Electronic storage will have to continue to be configured and reconfigured to keep up, perhaps to the tune of 3-15 Gbytes per year. Oh, by the way, just because you’re in decommissioning and all you have left is the ISFSI (independent spent fuel storage installation) pad, it doesn’t mean you stop generating records. And, did I forget to mention that it all has to be backed up, doubling the storage needed?

E-content platform upgrades or swap-out

- **Digital degradation.** Digital degradation can occur on the electronic medium where the document/record object is stored. It may experience data decay as the bits lose their magnetic orientation. Higher temperature speeds up the rate of magnetic loss. However, modern disk drives are resistant to this sort of degradation and also have autorecovering software. Most information technology organizations can detect degradation and will occasionally migrate data to new storage to mitigate degradation.

- **EDMS Change.** An EDMS does not “sit still”. There are new software releases that are applied at frequent intervals, either to fix issues or improve performance. Despite those improvements, over the course of the lifetime of a plant, the underlying technology will probably be swapped out (due to technology obsolescence or change in enterprise content management (ECM) offerings). It is not unusual for a plant to undergo two-to-four EDMS evolutions in its lifetime. Today, the ECM space is moving towards cloud-based operability and storage, challenging the secure protection of quality assurance, sensitive, and confidential records.
• **Migration.** With every ECM platform change, data migration occurs. It involves re-purposing the metadata, determining a document/record taxonomy, applying full text indexing, and moving the electronic content. As plant record repositories continue to grow, data and content migration are a “long leg” in an overall project schedule. Migrations need to ensure that previous metadata finds a place in the new schema while also assuring content integrity. Though there are technology methods to check on file integrity, there is no substitute for the “eyeball check” – sampling to ensure that the objects can be searched for and “launched” in the viewer(s) of choice. Note: If there is an ECM platform change for a plant decommissioning, and records have not been dispositioned, then you may be migrating a lot of records that you may not need going forward. (For example, decommissioned plants have obtained a partial exemption from the record keeping requirements of 10CFR50 Appendix B. This exemption eliminates the requirements to maintain records for certain systems, structures, and components that are no longer necessary due to the permanent shut-down and decommissioning status.)

The good news is that we are

a) taking advantage of information technologies to automate the capture and retention of records on electronic media, and

b) providing plant staff with the tools to quickly search, find, and print documents and records to support operations and decision making.

But this electronic repository will continue to grow and age; and like an iceberg, current and active information is what we see, and the aging /”archive” of information is what is below the surface. At some point, the iceberg needs to be reduced, and that’s the subject of next issue’s article, so stay tuned!

Eugene has been a member of NIRMA for over 38 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.

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**Symposium Early Bird Rates End July 1. Take Advantage Today!**

Register by July 1, 2024, and save $250 off the NIRMA Symposium registration rate. Incentive: Register 3 or more from your company at early bird price and receive all subsequent registrations for $700!
One of the most unsettling things in life, both personally and professionally, is change. But change is one of the few constants in life. Learning to navigate this in a healthy way is a hard-earned skill. Change can be frightening, upsetting, challenging and sometimes fun. I often tell myself during times of change, “be the willow, not the oak”. Meaning, learn to bend with the changes so you do not break.

Navigating change means taking a deep breath and taking account of what you know. Most importantly, when change comes to your company, what happens to your position or career? If your position is going to change, now is the time to take stock of your skills and abilities. What can you bring to your new position? Are there new skills that you need to learn? Are there certifications you can get to show your business acumen? If you have a mentor (NIRMA Mentorship can help!), talk to that person. He or she may have some advice on skills that you may need to learn or need to improve. This may help you maintain your employment, or maybe find a similar position in a new company.

If the change is about new management, new policies or new computer systems, learn all you can about the new way of doing business. Be open to the changes - be the willow tree. Don’t refuse to budge like the stiff and unyielding oak tree. Show management that you are open to learning the new way and the new policies. Change can be difficult for everyone no matter what position, even managers might struggle with change. You can make change easier on all your teammates by having a good attitude. Be a leader in your department showing others that everyone can embrace the changes. Maybe there will be committees or groups that are spear-heading the changes, join them or ask to be included. Get involved. One way to make change less scary, is to get ahead of the curve and understand what / when / how / why regarding the upcoming changes.

Change is not always bad. Change can be invigorating. It can lead to new ideas on how to do business. Be open, be curious, be willing. Once you know a change is on the horizon, be ready to jump in and be a part of the solution.

“The secret of change is to focus all of your energy not on fighting the old, but on building the new.”
~Socrates
A purpose of the Membership and Marketing (M&M) Business Unit is building the NIRMA organization by bringing in new members from every avenue. This will make the NIRMA organization robust and diverse. The knowledge each member brings on board is then shared with the whole NIRMA organization.

In less than 2 months we have an opportunity to share our knowledge with each other as well as invite potential new members to join us at the 2024 NIRMA Symposium. Please invite your Industry peers to attend the NIRMA symposium.

With so many new and innovative technologies that the nuclear industry (both private and government organizations) are delving into, we need to understand and be ready for the impacts to Information and Records Management, so consider bringing a colleague with you to the symposium, such as IT, your boss, procedure writers, auditors, engineers, etc. Many companies have a department dedicated to Innovation. Please reach out to yours and either gather information to share at the symposium or invite them along. We will all benefit from the diversity they can bring to the symposium.

M&MBU meets the first Wednesday of every month for one hour at 12:00 PM CST. Please join us. We are a fun group to work with.

For additional information or questions on anything mentioned above, please contact nirma@nirma.org.
RIMBU is still looking for a Co-Director. If you are wanting to improve Regulations and Information Management skills, please consider volunteering for Co-Director role. Interested? Please contact Rhonda Redding at rhonda.redding@evergy.com.

The RIMBU team has been working hard in 2024 on several items:

- The Logo committee has been working to design a RIMBU banner for the Summer Symposium. They developed a couple of great designs that were presented to the RIMBU team in the monthly May meeting. Voting took place on May 8th. The winning design has been submitted to the NIRMA board for final approval. RIMBU and the Board continue to work on the proposed design.


- TG22 - Management of Electronic Vendor Technical Documents is out to the team for its 45 day review. Targeted due date was May 15. Comments have been received and are being incorporated.

- ISO Standards Review has been completed and submitted to the Board for final review and approval.

- TG-23 - Turnover of Records and Incremental Handover of Information for Nuclear Facilities is scheduled for reaffirmation in 2024. A committee has been formed and is working to complete the review.

- TG-24 - Procurement of Digitization is scheduled for reaffirmation in 2024. A committee has been formed and is working to complete the review.

We appreciate everyone who has volunteered to work on a committee. Your time and efforts have not gone unnoticed.

Want to volunteer or have Questions? Please reach out to:

- Rhonda Redding at rhonda.redding@evergy.com, RIMBU Director or
- Amy Odom at alodom@sourthernco.com, RIMBU Secretary.

**NIRMA 24 Symposium**

- **August 5-7, 2024**
- **August 8, 2024 — Business Unit Meetings**

**Held at the**

**JW Marriott Resort and Spa**

**Las Vegas, Nevada**

[CLICK HERE TO REGISTER]
The country’s first expected commercial small modular reactor was scrapped by NuScale Power on Wednesday, delivering a major setback to the advanced nuclear industry.

NuScale and the Utah Associated Municipal Power Systems (UAMPS), a group of local electric utilities that had agreed to purchase power from the project, mutually decided to terminate what was known as the Carbon Free Power Project (CFPP), according to a news release. NuScale is the only U.S. developer with a design approved by the Nuclear Regulatory Commission (NRC) for a small modular reactor (SMR).

The project was supposed to consist of six 77-megawatt SMRs, generating a total of 462 MW, and come online in 2029. It was to be located near Idaho Falls, Idaho, at the Department of Energy’s Idaho National Laboratory.

DOE said it had provided $232 million for the project since 2020, before federal infrastructure and
climate laws passed in 2021 and 2022. The department had backed the project with a $1.4 billion cost-share deal.

But substantial cost overruns and delays from its originally scheduled 2026 operational date spooked utilities that are members of the UAMPS, leading several to withdraw from a 2019 agreement to buy 200 MW from the reactors once completed. The project previously was the subject of intense discussion among UAMPS members.

Oregon-based NuScale said in the Wednesday release that the reason it could no longer advance toward deployment was because it lacked enough subscribers. Yet the company’s president and CEO, John Hopkins, projected certainty that it will still be able to bring its SMR design into reality in the future.

“Our work with [the CFPP] over the past ten years has advanced NuScale technology to the stage of commercial deployment; reaching that milestone is a tremendous success which we will continue to build on with future customers,” Hopkins said in a statement.

A DOE spokesperson, who didn’t provide a name, called the cancellation “unfortunate news,” adding that “the work accomplished to date on [the project] will be valuable for future nuclear energy projects” and that “advanced nuclear energy technology is a critical tool to meet our ambitious net-zero goals.”

Proponents of advanced nuclear technologies like SMRs argue that one of the benefits will be a cheaper cost of carbon-free energy that can run nearly 24/7. NuScale’s Idaho-based project had a target of delivering 40 years of electricity at $55 per megawatt-hour.

But project costs climbed to $89 per MWh, according to a report from the Institute for Energy Economics and Financial Analysis, which has been critical of relying on SMR technologies.

The report’s author and director of resource planning analysis, David Schlissel, told E&E News the cancellation is “absolute evidence” that “the claim that SMRs are going to be cheaper is false.”

“If it sounds too good to be true, it probably is,” Schlissel added.

NuScale’s stock price saw a significant drop last month. And the stock plunged in after-hours trading Wednesday.

Still, advanced nuclear advocates said Wednesday they are still confident in the viability of SMRs.

“This is one project among many that are being developed to deploy advanced nuclear technologies,” Nuclear Innovation Alliance Executive Director Judi Greenwald said in an email. “We must continue to support a portfolio of different approaches to ensure we see successful deployment of advanced reactor technologies” to meet U.S. climate goals, she said.

NuScale first got NRC approval for a 50-MW reactor design in July of last year — a design that’s different than the proposed 77-MW reactors that were canceled Wednesday. The company had also signed agreements earlier this year to develop and deploy SMRs with Nucor, the country’s largest steel producer, and Fluor a Texas-based engineering and construction firm.

NRC did not immediately respond to a request for comment on the NuScale project Wednesday.

UAMPS CEO Mason Baker called the decision “very disappointing,” but the “best course” for the coalition of local power providers he leads, who will still need the electricity the project was set to supply.

“We are working closely with NuScale and the U.S. Department of Energy on next steps to wind the project down,” Baker added in a Wednesday statement.

UAMPS spokesperson Jessica Stewart said in the email that the group still has “ample time and opportunity to replace the energy output it planned to receive from the CFPP.”

Stewart said UAMPS’s efforts include looking at expanding a wind farm in Bonneville County, Idaho, as well as adding utility-scale solar and considering natural gas technologies that use hydrogen.

Reporter Jason Plautz contributed.

Article reprinted with permission of E&E News. Read full article here.
It is hard to believe that 25 years ago, the Reactor Oversight Process (ROP) was born. After evaluating various top-down approaches to assess industry regulatory performance, the Nuclear Regulatory Commission (NRC) worked with the Nuclear Energy Institute (NEI) to develop a risk-informed approach to reactor oversight. This required many public meetings over the course of two years, and pilot testing at eight nuclear power plants. These plants (Salem/Hope Creek, Fitzpatrick, Harris, Sequoyah, Prairie Island, Quad Cities, Fort Calhoun, and Cooper) set the stage for this revolutionary oversight approach that was ultimately accepted and approved by the five NRC commissioners.

The ROP provides a clear framework for combining inspection results with objective performance indicators reported to the NRC to measure the regulatory performance at each U.S. nuclear power plant. The beauty in this approach was its openness, predictability, and objectivity. Over these 25 years, the ROP has slowly evolved as industry performance improved and risk-informed processes were implemented. While industry operating experience and NRC self-assessments informed some improvements to inspections and performance indicators, there is more to do to ensure the ROP keeps serving its intended purpose. The industry and NRC continue to discuss improvements to the ROP and evaluate its effectiveness. This long-running dialogue between NRC, NEI and the public has served all stakeholders well.

Today, the U.S. nuclear fleet operates more safely and efficiently than ever before. While the ROP has come a long way since its inception, it cannot be allowed to stagnate. The ROP must continue to evolve and modernize as the industry’s safety and reliability continue to improve. This is the key to ensuring NRC and industry resources are applied where they contribute the most to safety and public confidence in nuclear energy. Effective and efficient regulation is vital for nuclear power to play a critical role in meeting the Nation’s decarbonization and energy security goals.
I consider myself a good driver. I operate my vehicle safely. I obey traffic regulations and keep my car in good condition with regular maintenance. Renewing my driver’s license is a no brainer and aside from the line at the DMV, it is otherwise a painless process.

To build the clean, reliable and affordable energy system of tomorrow, the U.S. will need to add new nuclear generation to meet our climate and energy independence goals. New generation will come in two forms: 1) Keeping the existing nuclear reactors, the largest source of reliable clean energy, operating through subsequent license renewals, and 2) Building the next generation of innovative nuclear technologies.

The U.S. boasts the highest performing nuclear reactor fleet in the world. Our current nuclear plants run more efficiently than ever before. They operate safely and withstand extreme weather conditions and increasing energy demand. Like a good driver with a well-maintained vehicle, they too need to renew their licenses...but the process isn’t a no brainer.

While renewing the licenses of our existing nuclear reactors is crucial to our progress as we build a clean, reliable energy future, the process takes years and substantial capital investment by the plant owner. NRC performs rigorous, multi-year reviews of the plant and programs to confirm the safety of the plant for license renewal. License renewals will ensure that clean energy, that would otherwise be lost if a plant were to shut down at the end of its license, will continue to serve as a foundation, and more, for the additional clean generation that will be added once next-generation reactors are online. Otherwise, we will be taking a giant leap backward.

The decision to renew a license for a nuclear power plant is both easy and difficult. Easy, because these clean energy workhorses can provide large amounts of clean energy 24/7 365 days a year, rain or shine. They can easily operate for sixty or eighty years, potentially even longer. But it is difficult because the license renewal process is onerous and expensive.

The Inflation Reduction Act, along with actions at the state level, has helped nuclear power plants compete economically in

By Lucas Johnson

Continued on page 34.
U.K. announces new site for mega-nuclear power station

The United Kingdom has announced a northern Wales site as its preferred location for a third mega-nuclear power station as the nation aims to support long-term energy security.

Following its plans to build nuclear facilities at Hinkley in Somerset and Sizewell in Suffolk, both in England, U.K. officials hope to revive the nuclear history of Wylfa, in Wales, and bring thousands of jobs and major investment to the area. The government is kickstarting talks with global energy firms in hopes of building a nuclear plant in Wylfa that could provide enough energy to power 6 million homes for 60 years.

“Wylfa would not only bring clean, reliable energy to millions of homes—it could create thousands of well-paid jobs and bring investment to the local area,” said Claire Coutinho, U.K. secretary of state for energy security and net zero.

Nuclear plans: Earlier this year, the United Kingdom launched plans for its largest nuclear expansion in 70 years, outlining plans to grow nuclear energy capacity to 24 gigawatts by 2050. Its current fleet of nine reactors generates nearly 5.9 gigawatts and supplies 14 percent of the nation’s energy.

The U.K. government, which is planning a fleet of small modular reactors and a large-unit buildout, published its Civil Nuclear Roadmap in January, laying out goals and actions for building nuclear energy capacity. About 64,500 workers are involved in the U.K. civil nuclear supply chain, and that number will have to double over the next 20 years to support the quadrupling of output.

The properties at Wylfa in northern Wales and Oldbury-on-Severn in southwestern England were bought by ministers for £160 million ($203 million) from previous developers Hitachi. This was the first time since the 1960s that the government acquired land for new nuclear.

Great British Nuclear handled the property purchase. The group is an extension of the U.K. government, established to help achieve nuclear goals in the nation, with a primary focus on bringing SMRs on line.

“The government is absolutely right to pursue more large-scale nuclear alongside the SMR program: It is proven technology that delivers clean, sovereign power and can transform communities with thousands of high quality, long term jobs,” said Tom Greatrex, chief executive of the U.K. Nuclear Industry Association. “Wylfa is an ideal place for a big nuclear project, and the community knows nuclear.”

Wylfa history: Two 490-MWe Magnox reactors were built as the original nuclear project at the site. The reactors began commercial operation in November 1971 and January 1972; and they operated successfully until Unit 2 was shut down in 2012 and then Unit 1 in 2015. Defueling of the plant completed in 2019.

Meanwhile, Horizon Nuclear Power had announced plans in 2009 to develop a new nuclear facility at the 20-hectare site and later partnered with Hitachi, but plans faltered in 2019 and both companies abandoned their plans.

Welsh secretary of state David T. C. Davies recently said he couldn’t put a date on when the new nuclear project will be built but added that Wylfa is “destined to have a nuclear power station.”

Asked if a new power station would be ready by 2040, he said, “It’s traditionally taken a longish time,” but several international energy companies have expressed interest in the site.

The Financial Times reported South Korean state energy company Kepco was among those in early talks with ministers over the new Wylfa power plant.

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deregulated markets thanks to the value placed on clean energy and today we are seeing rapidly growing energy demand like we haven’t seen in decades. We can ill-afford to have these giants of the energy grid shut down due to an arbitrary age limit.

As the Washington Post reported, “Vast swaths of the United States are at risk of running short of power as electricity-hungry data centers and clean-technology factories proliferate around the country, leaving utilities and regulators grasping for credible plans to expand the nation’s creaking power grid...Northern Virginia needs the equivalent of several large nuclear power plants to serve all the new data centers planned and under construction. Texas, where electricity shortages are already routine on hot summer days, faces the same dilemma. The soaring demand is touching off a scramble to try to squeeze more juice out of an aging power grid while pushing commercial customers to go to extraordinary lengths to lock down energy sources, such as building their own power plants.” These large reactors are already providing clean energy 24/7/365 across the United States. We can’t afford to lose any of this generation from these workhorses – in fact, it should be expanded to add new energy from a reliable source.

Thankfully, we’re already seeing some of that need being met. One plant, Surry in Virginia, has already received a license to operate for 80 years. Nine other plants are already in the process, including units at: Peach Bottom in Pennsylvania, Turkey Point and St Lucie in Florida, North Anna in Virginia, Point Beach in Wisconsin, Oconee in South Carolina, Monticello in Minnesota, Summer in South Carolina, and Browns Ferry in Alabama. These applications total 18 GW of new generation enabled through these renewed licenses. There’s also a handful of companies poised to go through the extension process – including reactors operated by Constellation, Duke Energy, Southern Nuclear to name a few.

The ability to expand the life of a nuclear plant from 40 years to 60 years to 80 years is nothing short of critical for our clean energy and energy independence goals, all while meeting our country’s increasing need for energy. Thinking about our future energy needs can be daunting, but nuclear energy is here to meet the moment.

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