

Leading the way in Nuclear Information and Records Management

# Inside **NIRMA**

**magazine**

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A Question from the Symposium:  
“Why do you have two Scanners?”  
nextScan

It Will All Come Out in the Wash  
Nawah Energy Company, Barakah Nuclear Power Plant

Issue # 15, Fall 2022

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Photo by Jim Zimmerlin

California lawmakers recently voted to extend the life of California’s only nuclear power plant by five years. Click [here](#) to see the story. Click [here](#) for more on Diablo Canyon’s life extension in Industry News.

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## 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](mailto:DevereauxInc@outlook.com).

If you haven’t already done so, please take a moment to follow NIRMA on YouTube, 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

### Editors

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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.

# Message from the President

JANICE HOERBER



## HERE WE GO!

I was going to title this "Are We There Yet?", but during the 2022 NIRMA Symposium I saw many attendees lean in and start a shift in their mindset. They asked great questions and engaged with curiosity to learn more about current industry trends and new technology that is here and real. I sat in the back of some sessions and smiled as the dots were connecting, not only for the first-time attendees, but also for some seasoned NIRMA members. By the conclusion of the Symposium, we were ready to say "Here We Go!"

A year ago, the NIRMA Board of Directors made a commitment that the time is now to help our membership see the future and quickly leverage the skills and solutions that are available. We have to make these things an organizational priority in our workplaces.

*We need vendor experts and all-in teams to take nuclear processes into the future with technology. NIRMA will continue to engage more technology vendors to help us connect the dots.*

Indeed, NIRMA is making progress toward this commitment. We had an exceptional turnout of Vendor Exhibitors & Sponsorships to enhance the Symposium, in addition to guest speakers providing latest industry updates. The launch of the NIRMA Special Interest Group on Emerging Technologies (SIGET) is generating new interest that will be exciting to follow.



NIRMA intends to be on the forefront to help your organization manage information for the future with potential new guidance and standards. NIRMA will continue its mission from the past while adapting to bring its membership value for the future.

It will take all of us, bringing our talents and working together. The NIRMA Business Units welcome all members to join a monthly meeting and provide your insights and expertise. The NIRMA Board is also looking for volunteer advisors and/or "doers" in your circles with a background in topics such as SharePoint and website maintenance, logo design, and social media presence. My goal is to ensure NIRMA is also poised for the long-term with its internal tools and processes. Please send me an email at [jhoerber@ameren.com](mailto:jhoerber@ameren.com) if you have ideas or know of resources to assist.

Here we go!



↑ L-R: Janice Hoerber and Bruce Walters speak at the 46th Annual NIRMA Symposium.





# From the Vice President

## BRUCE WALTERS, CRM/NS

The 2022 Nuclear Information Management Symposium was an amazing accomplishment on so many fronts. First, we got to gather again as an organization, completely in person, with over 100 eager attendees. How far we have come from the nine of us who attended in person in 2020. We had 35 first-time attendees. We had five international attendees, most of whom were speakers. We had 10 vendor booths in the Exhibitor Hall and had a splendid evening with them on Tuesday. We kicked off several Special Interest Group Emerging Technologies (SIGET) sessions where we began looking at what the future holds for us. You could just feel the energy in the rooms, the buzz, it was a true blessing to behold.

I want to send a huge shout out to our keynote speakers, general session speakers, Spotlight session speakers, exhibitors, sponsors, marketing team, and hotel staff who helped create a dynamic environment for all of us. It always takes a lot of effort and support to pull off such an event. Thank you all for stepping up and being a part of this year's symposium. Your energy and insightful contributions were remarkable and made the NIRMA 46<sup>th</sup> gathering special.

And since this year's symposium was such a smashing success, we hope this will encourage all members and your colleagues to come next year. And speaking of next year, please know that preparations have begun for the 2023 Symposium. It is locked in for August 7-9, 2023, with plans for Business Unit meetings on August 10-11, 2023, at our favorite resort, the JW Marriott Las Vegas Resort & Spa. For you attendees who completed the post-symposium survey, thank you! Know that the Board is reading your comments and will be working to implement as many of them as possible for next year. There are some great suggestions for session topics ... now all I have to do is find speakers who can cover such ideas. If you're up for being a speaker, just let me know ... I know a guy who knows a guy! You've heard me say that I love case studies because it puts a practical application to any issue. Please consider presenting your success, failure, or in-process story so all of us can learn from you.

I am more excited than ever for what next year will bring for NIRMA itself and the opportunities that all of us have for networking and education. Plan to join us. I'll be happy to greet you there.

NIRMA



## Diablo Canyon Power Plant Gets a Renewed Lease on Life

*“California's passage of the Senate Bill 846 underscores nuclear's essential role in achieving a reliable, affordable and carbon-free energy transition. The bill offers a pathway for PG&E to extend the operation of Diablo Canyon, which will help the state reach its climate goals and ensure a reliable clean energy workhorse continues to serve residents. Through effective policymaking, the nation's largest source of carbon-free power can continue to serve the state with affordable clean energy, while ensuring the long-term, highly skilled jobs and millions of dollars in tax revenues to California communities.”*

*“California's decision to preserve its current nuclear capacity mirrors actions we have seen around the country and around the world as governments recognize the critical role nuclear plays in decarbonizing both the electric sector and entire economies.”*



Maria Korsnick,  
president and chief  
executive officer of the  
Nuclear Energy Institute

For more on Diablo Canyon's life extension, [click here](#) for Industry News.

## CONFIDENT DIGITAL CONVERSION SUPERIOR PRODUCTIVITY

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# A Question from the Symposium:

## “Why do you have two scanners?”



By Matt Anderson,  
Vice President of Marketing



### *Hear what you may have missed at NIRMA*

**A**t this past summer’s NIRMA Symposium, during our live session, a question was asked that we thought more NIRMA members might want to know about. For the microfilm archives, why do you have a need for a conversion scanner and an on-demand scanner?

For different purposes, of course! The digital age has welcomed decades of scanning and image capture development. This evolution allows us a choice of capture technology implementation depending on the scanner’s purpose.

Many nuclear sites employ more than one scanner for their digitization needs. You will find the high-speed conversion scanners, such as the FlexScan from nextScan, digitizing the microform archives for high-speed access in the near future.

What happens when an engineer needs a particular document immediately? In most instances, it will be faster to use an on-demand scanner, like the ViewScan 4, to look up one-off files. If you know the roll or fiche where the file is located, it

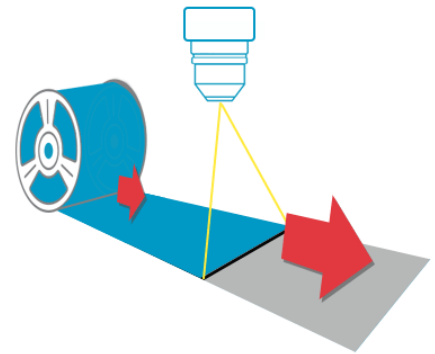
should take an experienced user very little time to find what is needed.

While these two scanners have similar functions, they were engineered with specific job requirements in mind. For high-speed digitization, a scanner will need to continuously scan documents while in motion. The engineers at nextScan use Line Scanning technology to create a full ribbon of each roll of microfilm that captures the entire roll, edge-to-edge and end-to-end.

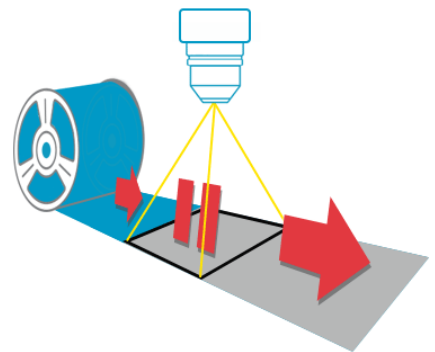
Continuous, uninterrupted scanning of microforms is only possible by using line scanning technology. Line scanning involves precise strobe lighting that allows the line image sensor to capture a single row of pixels as the film passes below. This ensures that nothing was missed during the capture process.

This conversion process creates a RAW digital file (uncompressed and unprocessed image data captured by a digital camera or a scanner’s sensors) which is required for proper auditing and indexing. The RAW data can be scrutinized

#### LINE SCAN



#### AREA SCAN



with adjustments to create the clearest image during the auditing process prior to output. This is a crucial step in the conversion process as it ensures nothing was

[Continued on next page.](#)



Continued from previous page.

The on-demand microfilm scanner, the ViewScan 4, uses much different scanning technology to create digital files. That is, an area array camera that is similar to what you will find in your digital camera. This camera streams a feed of images directly through the PC to the monitor, live and in real-time, using a fast USB 3.0 connection. When users arrive at the desired page, they may press a button to take a scan in under one second. That image can now be shared in one of many file types or printed to any network-supported printer.

The problem with Area Array Cameras comes when movement is introduced. Motion causes distortion to the image which will lead to the image appearing smeared or overlapping, resulting in poor image quality.

omitted from the original file and all information has been retained.

You can see an example of this by taking a picture with your phone while moving it.

## Remember the rule - *use the right tool for the right job.*

Remember the rule - *use the right tool for the right job.* With the advancement of the digital age, we benefit from the knowledge and technologies to create more sophisticated scanners. This allows for more specialized equipment. And we aren't done yet. You won't want to miss what we develop next!



### NIRMA's 2023 Board of Directors

The 2023 Board of Directors election results were communicated to the attendees at the 2022 Annual Business Meeting on Day 3 of the Symposium in August. The following is the 2023 Board assignments:

← L-R Bob Larrivee (Director of Technical Programs), Sheila Percy, CRA (Director of Infrastructure), Tammy Cutts (Treasurer), Janice Hoerber (President), Bruce Walters, CRM/NS (Vice President), and (inset) Kathi Cole, CRM (Secretary).

#### 2023 Business Unit Directors:

- Membership & Marketing Business Unit (M&MBU)  
Director: Devin Cote  
Co-Director: Renee Romo
- Professional Development Business Unit (PDBU)  
Director: Lou Rofrano  
Co-Director: Gil Brueckner
- Regulations and Information Management Business Unit (RIMBU)  
Director: Stephanie Price  
Co-Director: Rhonda Redding

#### 2023 Nominating Committee:

Lona Smith  
Brittany Feeley



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# It Will All Come Out in the Wash



By Mark Allen Rogers

Director of Procedures and Records Management  
Nawah Energy Company, Barakah Nuclear Power Plant  
Abu Dhabi, United Arab Emirates

I like my chicken fried. I want kale cooked for at least 10 hours. I prefer my coffee to be served without cream and sugar. The best tomato is served ripe, thinly sliced on an all-beef burger. However, as time has progressed, grilled chicken and fresh kale smoothies are on the menu. Starbucks serves a hot and cold version of every coffee drink, and hot black coffee is the least popular drink. No one should eat red meat, and don't get me started on fried green tomatoes. Times have changed.

Likewise, Nuclear Power Plant (NPP) operators have historically preferred procedures to be printed on paper and automatically archived by the mysterious box in the back of the control room. Supervisors are accustomed to keeping their most important records stored in a file cabinet in their office, perhaps with a lock. Progress never ends.

As NPP Professionals, we now live in a world of Computer Based Procedures (CBPs), Dynamic Work Instructions (DWIs) and electronic records management. As we continue to advance the industry of document control and records management, we are seeing immediate advantages in new indexing capabilities and the implementation of artificial

intelligence. We have experienced improved efficiencies in accessibility of records and implemented new security protocols with rule-based access measures.

I recall as a child in the Southeast of the United States, we experienced severe thunderstorms in the spring months. The older folks would say, "It's comin' up a cloud." This meant that a storm was forming, and we should take shelter. In today's culture of records management, when we mention the cloud, we think of collaboration, unlimited storage space and multiple layers of backups.

Advancements bring endless opportunities for efficiency improvements. For example, many multi-unit NPPs develop and revise nearly identical procedures for each unit. Procedures are written independently for each unit, instead of having one single procedure applicable to all units. This precludes human error associated with task burden of selecting the appropriate component while executing a procedure. Procedure Management Systems are available which permit maintaining a parent procedure. This parent procedure will automatically generate child procedures, based on a complex database of plant equipment, functional locations, setpoints, label

plate information and other requirements of the procedure which may differ from one unit to the other. This system reduces the manpower requirements of procedure writers. However, with each advancement new challenges are presented, such as:

- Efficiently managing the workflows associated with the parent procedure.
- Migrating metadata from the parent procedure to each of the child procedures within the document management system.
- Developing and maintaining the required skillset for procedure writers, document controllers and records management personnel.

CBPs and DWIs also present new challenges to document management systems. Complex processes exist for uploading revised procedures into emulation systems associated with DWIs. Industry standards for the programming language of procedure instructions have not yet been fully developed and implemented. As a result, source documents are typically written in a proprietary language, which would present challenges in restoration of lost files or transitioning to a new system or

# CONGRATULATIONS!

## NIRMA'S NEW LIFETIME MEMBER, REBECCA WESSMAN

Congratulations to **Rebecca Wessman**, Xcel Energy! She was awarded the prestigious NIRMA Lifetime Membership with all rights, honors and privileges on August 3, 2022 during the NIRMA Annual Business Meeting at the Symposium.

Janice Hoerber bestowed the honor to Rebecca with a plaque in recognition of her exemplary service and leadership contributed for the benefit of NIRMA and the nuclear industry. Some highlights of Rebecca's achievements are:

- Active NIRMA Member since 2004
- Participated in the Regulatory & Information Management Business Unit (RIMBU) from 2005-2009
- Assisted in revisioning of several Technical Guidelines (TG's) and

the initial development of process models for Records Management and Document Control in AP-907 (Information Management Process Description and Guideline).

- Elected to the NIRMA Board for 3 terms serving as Secretary (2010-2011), Vice President (2012, 2014), President (2015-2017) and Director of Technical Programs (2018-2019).
- During her tenure as President, Rebecca brought increased governance to the Board and a complete revamp of the Administrative Procedures (AP's) format template, creation of an AP review schedule, and instituted formalized training for Business Unit Directors and incoming new Board members.



↑ L-R: Rebecca Wessman and Janice Hoerber

vendor. For CBPs executed in the Main Control Room, procedures may directly access instrument and component data. This invokes an additional layer of cyber security requirements, creating challenges associated with record migration from an air-gapped system to an enterprise level network.

As a first-time presenter during the NIRMA Symposium in August 2022, I was impressed that these types of challenges are being addressed directly. Members are openly sharing their concerns, future plans and successes. Although concerns of intellectual property and proprietary information exist, it is refreshing to see that members of NIRMA continue to share Operating Experience in the pursuit of shaping the industry of document control and records management. The demonstration of new technology by vendors and sponsors illustrated the need for nuclear professionals to maintain current knowledge in the field regarding new innovations.

***As my grandmother said, “It will all come out in the wash” which means that we will work through the challenges and we will accomplish our goals.***

When I left an established utility in South Carolina and transitioned to a new build NPP in the United Arab Emirates, I fully expected challenges. We all know that life is short and full of blisters. Those challenges seem less overwhelming as a member of NIRMA, which provides a sense of comradery and an opportunity to share. This sharing enables us to benefit from each other's cumulative experiences. As my grandmother said, “It will all come out in the wash” which means that we will work through the challenges and we will accomplish our goals.





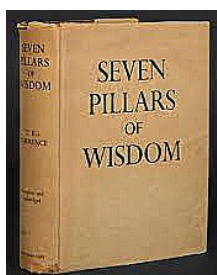
# CHRONICLES OF NIM: A RETROSPECTIVE ON INFORMATION MANAGEMENT IN NUCLEAR POWER



By Eugene Y. Yang,  
Principal Consultant  
KISMET Consulting, Inc.

*I have been writing a multi-part series on the fundamentals of electronic records management in the nuclear power industry. The subjects have ranged from regulations and guidance to processing, authentication, and storage. In this issue, I'll take a higher-level view on what are some key "components" of a content management system.*

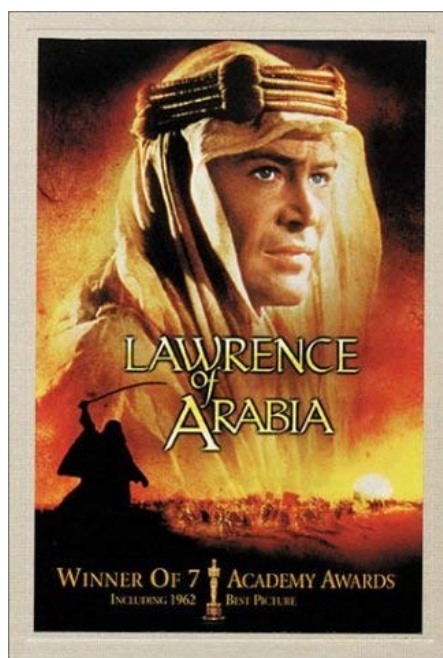
**L**awrence of Arabia. The very name evokes images of sweeping desert vistas, a lone figure in desert robes astride a camel, leading the Arab Revolt against Turkish rulers during World War I. In the aftermath of the Great War, Thomas Edward Lawrence (T.E. Lawrence) wrote a book of his



experiences called the "Seven Pillars of Wisdom", referring to Proverbs 9:1, "*Wisdom has built her house; she has hewn her seven pillars.*"

When it comes to electronic content management systems, there are also "seven pillars" of such to assure the documented quality assurance compliance envelope of a nuclear plant, but also provide value in supporting daily activities. These seven key areas are:

- Managing Controlled Documents
- Managing Records
- Search, View, Print



- Storage of Electronic Files in Native and Sustainable Formats
- Backup and Recovery
- System Configuration Management
- Integration With Other Plant Systems

Over the years, this column has discussed aspects of these areas, but in this article, I'm "zooming out" for a broader perspective:

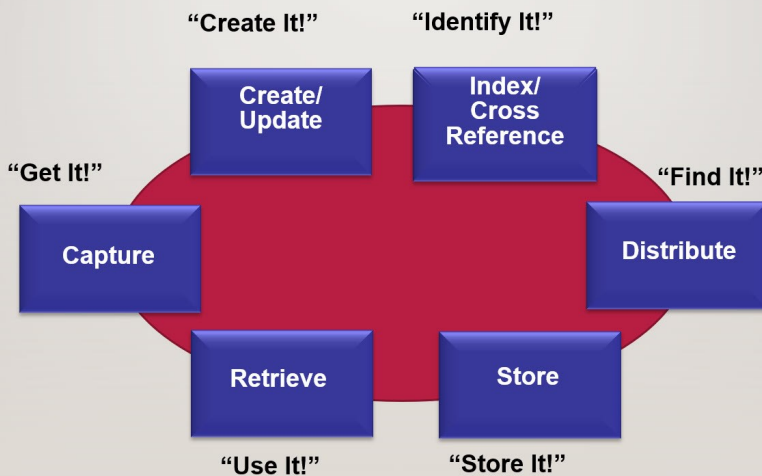
## *Managing Controlled Documents*

The content management system needs to have the functionality to support revision control of documents such as procedures, drawings, and calculations, as well as tracking the "change paper", for instance design change packages or design change notices. In addition, the system needs to track the revisions of documents distributed to important libraries, for example those located by the control room, in the technical support center or the emergency operations facility.

## *Managing Records*

Records are to be retained for the duration of the plant's license as part of the Quality Assurance (QA) Program, and per American Nuclear Insurers' (ANI) requirements. That means the system needs to maintain records according to the retention policy - safely and securely - so that they are available to support regulatory inspections, audits, or daily work activities.

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systems, database management systems, and application software. The control of computer code, testing, and integration is critical not only to “make things work”, but also to provide assurance that the platform operates as required.

## *Integration With Other Plant Systems*

No longer can a content management system be “standalone” as a repository, as plants need to gain work efficiencies through integrating the platform with other systems in the plant. These include systems for work management, supply chain, training, operations, and radiation protection. All these systems generate records that need to be ingested by the content management system; in some cases, controlled documents in the content management system are accessed by these other systems.

These “seven pillars” apply if you have legacy client-server architecture or if you’re moving into a web-based, cloud solution. Take some time in the coming days to see how these “seven pillars” apply to your situation!

## *Search, View, Print*

This recognizes the fundamental need for end-users to get to their controlled documents (“latest and greatest revision”) and records. This means accurately searching using either metadata or full text retrieval – or both – and then being able to “launch” the sought-after document/record in a view window, and, from there, print out the document if desired. Remember – electronic documents can only be “seen” digitally!

## *Storage in Native and Sustainable Formats*

Revisable documents should be stored in their editable (“native”) formats for future revisions; however, when a revision is approved for use, a record of that revision needs to be created. The system needs to save both the native - and it’s record “rendition” - against its index. Any records retained should be stored in a “sustainable format” – an independent format provides the means for an electronic file to be

retrieved far into the future. Such sustainable formats include PDF/A, TIF, or XML.

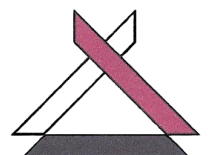
## *Backup/Recovery*

To assure the long-term retention and preservation of documents and records for the length of a plant’s license and ANI requirements (and beyond – think decommissioning), data and content backup is crucial, in case of system failure that can occur anywhere or at any time, due to natural disasters or human error. Periodically, recovery needs to be tested to assure that the system can be brought back either in part (in the short term) or ‘whole’ (for the long term). Such backups also comply with regulatory requirement for dual storage.

## *System Configuration Management*

Of course, documents and records are now “1’s” and “0’s”, so the management of, view of, and storage of these “electronic objects” are all managed by computer technology: hardware, operating

*Eugene has been a member of NIRMA for over 35 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](mailto:eugene.yang@kismetconsulting.com).*



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# SCENES FROM THE 46TH ANNUAL NIRMA SYMPOSIUM



← Keynote Speaker,  
Dan Bierbrauer,  
Director, Nuclear  
Technology Solutions,  
Southern Company



→ Lou Rofrano, AMS  
Store & Shred LLC and Bill  
Clover, Constellation  
Energy



← Shaikhah Alabdouli, Nawah  
Energy Co., UAE

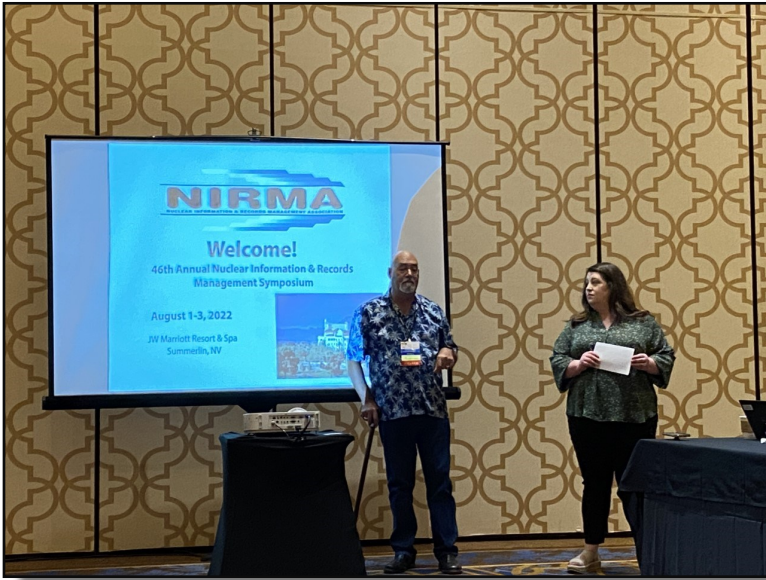


→ Rhonda Redding, Evers/Wolf  
Creek Nuclear and Eugene Yang,  
KISMET Consulting, Inc.

↓ ANSI/NIRMA CM 2021  
Revision Team: Laurent Perkins  
(Cohesive), Sarah Perkins (NIRMA  
Administrator), Bruce Walters  
(AECOM), and Rich Giska (R&L  
Partners, Inc.)







↑ Bob Larrivee, NIRMA’s Director of Technical Programs and Stephanie Price, RIMBU Director

↓ Mark Rogers, Nawah Energy Co., UAE



↑ Vendor Night



↑ Keynote Speaker, Dr. Bruce Hallbert, Idaho National Laboratory

# OF SPECIAL INTEREST: ANALYTICS AND PROCESS AUTOMATION



By Bob Larrivee  
NIRMA's Director of Technical Programs

These days, we are hearing and discussing analytics for process automation and business insight. This is focused on information that can and is being captured from multiple sources, including social media, blogs, websites, and even remote devices – the Internet-of-Things.

As information professionals this means attention must be paid to every element of inbound information. It must be recognized, analyzed, classified, and used to trigger related processes for business transactions. The use of analytics allows businesses to gain greater insight into their customer trends, operational processes, and even aid in diagnostics.

Information is entering our information ecosystems from sources like email, social media, remote devices, and today, robots, drones, and much more. The amount of information we receive is growing at exponential rates, making it increasingly difficult for humans to effectively identify, classify, and track it all. Just imagine how much more difficult it will be when the use of portable nuclear reactors enters our world.

The ability to automate inbound capture, identification, classification,

and initiate workflow actions becomes critical in relation to providing the right information to the right people at the right time. Especially in times of crisis. So the goal here should be to automate business processes to the degree that the only human interaction required is that of processing exceptions or for validation purposes.

The reality is these capabilities are here today. The key is focusing to serve a business purpose. For example, to identify, classify and process inbound engineering changes, or to monitor and react to recent changes in regulatory guidelines.

In my view, the combination of analytics and process automation is a powerful blend that frees up human resources for other more innovative activities. It removes the mundane or

tedious elements of day-to-day business activities from the human workforce. It gains valuable insight into how your customers react to changes in your business offerings, services, and interactions related to information access.

Remember, anyone in need of processing or accessing information is your customer. The question to ask before all others is a simple one, what business issue or opportunities are you trying to address? Is it slow processing times, an inability to identify and act upon inbound information effectively, or perhaps to gain greater insight into your business operations? Until you can identify the true purpose and establish measurements from which you can determine return on investment or corrective actions to take that bring the expected benefits, you cannot expect to have stellar results and problems solved.

As with any technology, analytics and process automation gains the greatest benefit when applied to resolve a business problem and enhance operations. It is essential that you focus your efforts rather than implement technology for technology's sake.

*The question to ask  
before all others is a  
simple one, what business  
issue or opportunities are  
you trying to address?*





# Seeking NIRMA Logo Designs!

NIRMA is preparing for an exciting future in the nuclear power industry! It's now time to go after a new logo for NIRMA and we need your help. We are asking for volunteers to send us fresh designs or sketches to consider. The logo will remain separate from any phrase or tag lines which are also welcomed.

NIRMA has a rich history of 46 years providing guidance to commercial and DOE facilities for quality records programs, regulatory compliance activities, electronic records initiatives, and document management technologies.

More recently, the Board of Directors launched the creation of SIGET, a NIRMA Special Interest Group on Emerging Technologies, to assess future impact and to develop the highest level of guidance for the NIRMA membership.



Please submit your ideas or pass the message if you know a perfect volunteer with this expertise! The NIRMA Board will unveil the new logo and celebrate this milestone in the coming months.

Send your submissions by email to [nirma@nirma.org](mailto:nirma@nirma.org) keeping file size in mind to ensure receipt.



## Treasurer Report



Lona Smith  
NIRMA Treasurer

### NIRMA's Financial Holdings as of September 18, 2022

Checking Account	\$105,363.00
Debit Account	\$ 303.75
Investment Account	\$ 83,818.44



# Professional Development Business Unit (PDBU) News



Lou Rofrano, PDBU Director

## THE 2022 NIRMA SYMPOSIUM IS OVER: NOW WHAT?

“That’s a wrap!”

**T**hat could be the phrase that the NIRMA Board and all who worked to make the 2022 NIRMA Symposium a success used as the last session came to a close. The only thing is that as soon as the Symposium was over the board members and many of the business unit members were talking lessons learned and to-dos for 2023.

That is the secret to any kind of professional development. It never stops or rests. We heard from many of you that the 2022 Symposium was a success and as gratifying as that was to hear, we want 2023 to be even better. So, the work begins again.



So here comes the challenge for all of the symposium attendees. Everyone loves to go to a meeting like the NIRMA Symposium. You get energized and motivated. You walk out with fresh ideas, set some education and self-improvement goals for yourself. You meet with peers informally and formally. Finally, you set that next career goal or certification aspiration.

In a series of studies in the previous century, it was discovered that people change their behavior often for the better when they become aware they are being studied. This is called the “Hawthorne Effect.” I have found that something similar happens with training meetings and educational events. People are affected by the meeting and all of the input they receive at the event. There is a 60-to-90-day elevation in self-development and even job performance. Good leaders capitalize on this which is part of the benefit of investing in employee education and development. We feel invested in the event and it shows up in many positive ways.

Here, however, is the downside. The further we get from an event like the NIRMA Symposium, the more rapidly the “event effect”

motivation fades. Very often the day-to-day events of our responsibilities forces us into old patterns or work approaches. You know this from life, so here are some things to consider as you bring those great ideas back to your life at work and keep the positive energy flowing:

**Motivation and energy are very important but consistency is the key. To make changes and grow your ideas, consistency of effort and steps along the way are critical.**



Focus on a few key action items from the Symposium. You likely have all sorts of notes and ideas. So many great ideas. Now narrow it down to the three most important ideas that will have the most impact for you or your company.

# NOMINATING COMMITTEE NEWS

NIRMA nominating committee is now accepting nominations for the board election. Let us know if you would like to nominate yourself or someone you know to run for the board. Submit nominations to:

- Lona Smith, [lismith@stpegs.com](mailto:lismith@stpegs.com) or
- Brittany Feeley, [Brittany.Feeley@wipp.ws](mailto:Brittany.Feeley@wipp.ws).



← Winner of the NHL hockey puck signed by Las Vegas Golden Knights star Brandon Pirri.

→ First Row (L-R): Craig Chovan, Tina Gilbert, Laura Schultz  
Middle Row (L-R): Donna Faass, Sheila Percy, Eugene Yang, Jo Ann Chovan  
Last Row (L-R): Bill Clover, Ed Faass, Rhonda Redding



Be realistic. Some ideas are so big and broad that you cannot affect that change alone. You simply do not have the organizational authority. Of your three ideas, make sure you have perhaps no more than one of these and make sure the other two ideas are something you have the power and energy to do. Nothing defeats enthusiasm faster than the inability to execute.

Place the other ideas to the side, but don't lose them because you may want to come back to them again. Now go to work. Determine an action plan for each of your three most important action items. For the two ideas for which you have complete control, flesh out the steps of what needs to be done, what you will do and hard dates to take those actions. For the most complex task, where you

may need to engage others, map out your first three steps and how you will react to other people's reaction to the idea. That is a solid start to your symposium action items.

Finally, a few thoughts on the word "consistency". Motivation and energy are very important but consistency is the key. To make changes and grow your ideas, consistency of effort and steps along the way are critical. Short term success without consistent effort will not yield long term results. It takes several months to make changes and develop habits so stay focused and measure your results against your desired outcomes from the symposium. Consistency is your not-so-secret weapon in achieving your goal!





# MEMBERSHIP & MARKETING (M&M) BUSINESS UNIT NEWS



Kathi Cole, CRM



reminder to all NIRMA members. If you did not attend the symposium this year, don't forget to renew your membership for 2023. In January, Sarah will be sending out invoices to those members who missed this year's symposium.

It is never too early to begin planning for the next NIRMA Symposium, to be held on August 7-9, 2023, with Business Unit Meetings held on August 10-11, 2023.

NIRMA is very appreciative of the feedback members provided to our Post-Symposium Survey. The Board wants the



2023 symposium to meet the needs of the novice through the seasoned veterans.

As always, everyone is welcome to join the Membership & Marketing Business Unit. We hold monthly conference calls on the first Wednesday of each month. Email either myself or Denise Pickett to let us know of your interest and we will add you to the call list. [kjccole1@yahoo.com](mailto:kjccole1@yahoo.com) or [denisearma@gmail.com](mailto:denisearma@gmail.com).



## NIRMA Tours the National Atomic Testing Museum





# Regulations Information Management Business Unit (RIMBU) News



Rhonda Redding, RIMBU Co-Director

## RIMBU 2022 Summer Meeting Topics and Actions

The RIMBU team held the annual Summer meeting on August 4th and 5th, immediately following the annual NIRMA Symposium in Las Vegas. Topics discussed were:

- Industry Foundation Class (IFC) file format for 3D Models
- The consolidation of Four TGs on Electronic Records Management:
  - ◆ **TG11** – *Authentication of Records and Media*,
  - ◆ **TG15** – *Management of Electronic Records*,
  - ◆ **TG16** – *Software Quality Assurance Documentation and Records*, and
  - ◆ **TG21** – *Records Protection, Disaster Recovery and Business Continuation*
- How records management can help our organizations leverage artificial intelligence (AI) and Robotic Process Automation while still capturing and managing important data
- Identification of new types of data needing to be captured for mobile reactors and NextGen technology
- How can we broaden our involvement with other organizations (e.g., AIIM, ASME, ARMA, NITSL)
- Update the Canadian Technical Guidelines
- Industry benchmarking

The summer meeting was a great success. We had several new members join from both inside and outside the US.

## Upcoming RIMBU Meeting Topics

### September

- Review Open Action List
- Status **TG18** - *Vendor Technical Information Program* and **TG22** – *Management of Electronic Vendor Technical Documents* - Rewrite
- Status on Canadian Technical Guidelines/Standards – Irene Gelyk is leading.

### October

- NRC employee Tammy Mensah to provide a general overview of what NRC Controlled Unclassified Information (CUI) is, how NRC is implementing it, and any impacts to licensees.

RIMBU is a great opportunity to benchmark with others in the industry, share valuable operating experience, and have the opportunity to influence industry standard guidance in records management. If you're interested in joining, please reach out:

- Director; Stephanie Price at [sjprice@southernco.com](mailto:sjprice@southernco.com) or
- Co-Director; Rhonda Redding at [rhonda.redding@evergy.com](mailto:rhonda.redding@evergy.com).



↑ Attendees of the RIMBU Annual Summer Meeting

# Industry News!

## California lawmakers extend life of nuclear plant, approve slate of climate bills

By Nichola Groom



← A flock of goats walk on a hillside above Diablo Canyon nuclear power plant at Avila Beach, California in this June 22, 2005 REUTERS/Phil Klein//File Photo

Sept 1 (Reuters) - California lawmakers on Thursday voted to extend the life of the state's only nuclear power plant by five years, and approved several other measures to bolster the state's already aggressive climate change policies

and shore up its fragile power sector.

The set of bills mark a victory for Democratic Governor Gavin Newsom, who had made a push in recent weeks to pass climate legislation that could match Congress' approval last month of the

biggest climate change law in U.S. history.

It also bolsters the administration of President Joe Biden, which is seeking to subsidize financially strapped nuclear power plants to delay their retirements and

keep clean power online, and rally support for ambitious climate action.

Among the series of last-minute votes, California's lawmakers reversed the state's 2016 decision to retire PG&E Corp's (PCG.N) Diablo Canyon power plant by 2025 and approved a \$1.4 billion government loan to extend its operation to 2030. The measure will help keep emission-free power on line in the midst of ongoing tight supply that has threatened blackouts.

It also allocated more than \$50 billion to clean-energy investments, codified a mandate to achieve economy-wide carbon neutrality by 2045, and set a target of generating 90% of its electricity from clean sources by 2035.

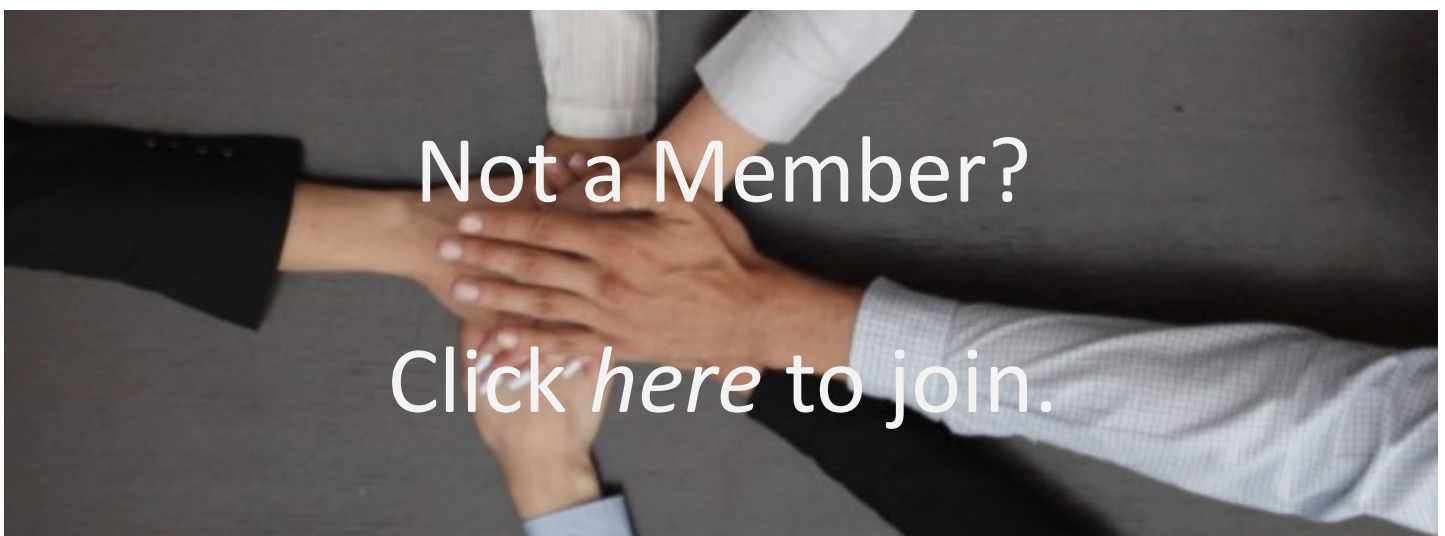
In a blow to the fossil fuel industry, lawmakers also approved a ban on oil and gas drilling within 3,200 feet (975 m) of structures including homes, schools and hospitals. The measure applies to both new and existing wells if they are re-drilled or altered. More than 2.7 million people in California live within 3,200 feet of a producing well, according to the bill's author.

Finally, the legislature also approved a bill to develop standards and streamline permitting for carbon capture projects.





# Get Connected!



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The Diablo Canyon extension and carbon capture bills were opposed by several environmental groups, though they broadly praised the legislature's action on climate change.

"California is lighting the way to a bright future powered by renewable energy, including wind, solar, and battery storage," said Laura Deehan, director of green group Environment California. "We know we will see even hotter heat waves, more severe droughts, and fiercer wildfires if we don't act on climate. The Legislature took significant steps today to change that trajectory for the better."

The legislature failed to pass one bill championed by the governor. It would have adopted more aggressive greenhouse gas reduction targets for the most populous U.S. state.

The governor's office was not immediately available for comment. Newsom is up for re-election in November and is viewed as a potential presidential candidate in 2024.

California wants to produce all of its electricity from clean sources by 2045, but has faced challenges with that transition, such as rolling blackouts during a summer heat wave in 2020. Nuclear energy generated by Diablo Canyon

accounts for about 9% of the state's electricity and nearly a fifth of its carbon-free power.

Newsom wants PG&E to apply for new federal funding to keep nuclear power plants open longer by a Sept. 6 deadline. PG&E cannot apply for the funding without a change in state law.

California has said the federal government is expected to cover most or all of the cost of the \$1.4 billion loan.



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# Industry News!

## Nuclear hydrogen initiative launched; Global generation up in 2021

More than 40 global participants announced the formation of the Nuclear Hydrogen Initiative (NHI) in July, a coalition that aims to engage policymakers, businesses, investors, and other key stakeholders to raise awareness of the role nuclear power can play in hydrogen production.

Studies have found that nuclear power operators can mitigate high costs by fitting plants to produce hydrogen as the gas is increasingly seen as an essential fuel to power a carbon-free economy.

The NHI, which includes academics, government bodies, non-government organizations, advanced reactor developers, nuclear and hydrogen supply chain operators, will facilitate the development of nuclear hydrogen demonstrations, engage the financial sector, catalyze commercial partnerships, and advocate for policies that support nuclear hydrogen development, it said in a statement.

“Hydrogen has an important role to play in a decarbonized global energy system, and we can unlock massive opportunities to quickly scale it by leveraging nuclear energy,” said Elina Teplinsky, Partner and nuclear energy and hydrogen expert at Pillsbury Winthrop Shaw Pittman LLP.

“But there is much work to be done to engender policy support, foster commercial partnerships, address technical issues, and craft financing models for nuclear hydrogen projects.”

The NHI launched with its first report, ‘Hydrogen Production from Carbon-Free Nuclear Energy: Overview of Current Policies and Recommendations for Government Actions.’

Global nuclear power generation up in 2021

Nuclear reactors generated 2,653 TWh of power in 2021, up 100 TWh from 2020 and the third largest total ever after 2,657 TWh in 2019 and 2,660 TWh in 2006, the World Nuclear Association (WNA) said in the World Nuclear Performance Report 2022, released in July.

The uptick reestablishes the upward trend in nuclear power generation seen since 2012 after a pandemic-related decline in 2020, the WNA said.

“However, this positive development must be put into the context of the upheaval there has been in global energy supply over the last 12 months,” WNA Director General Sama Bilbao y León said in the preface to the report.



↑Hydrogen produced from emission free sources is being slated as the key to a net zero future (Source: Reuters/Thilo Schmuelgen)

A surge in energy demand following the harsh impact of the COVID-19 pandemic resulted in more reliance on fossil fuels, Bilbao y León said.

“While such short-term actions may be necessary in the midst of a crisis, they are unsustainable. It is therefore welcome that many governments are now realizing that nuclear energy can propel the drive to net-zero emissions and be the foundation of a more secure energy system,” she said.

The total capacity of nuclear producing electricity in 2021 was 370 GWe, up 1 GWe from 2020 and the highest ever total capacity of reactors generating electricity in one year.

# Videos highlight decommissioning progress at SONGS

The San Onofre Nuclear Generating Station (SONGS) shared a few videos on its YouTube channel showing recent progress Southern California Edison has made in dismantling the plant's turbine building. Decommissioning of the nuclear power plant, which permanently ceased operations in 2013, is being conducted by SONGS Decommissioning Solutions, a joint venture of EnergySolutions and AECOM. Visit the links below

- [Unit 2 Turbine Building Gantry Crane Demolition](#)
- [Time-Lapse: Unit 2 Turbine Building \(Full Flow\)](#)
- [Unit 2 Turbine Building Dismantlement Begins](#)
- [SONGS YouTube Channel](#)



The total number of operable reactors, meanwhile, dropped to 436 in 2021, down from 441 a year earlier. Nearly 70% of those were pressurized water reactors (PWR).

All but one of the 34 reactors to have started up between 2017 and 2021 were PWRs, the WNA said.

Of the 436 reactors worldwide, 144 were in Asia, 113 in North America, and 119 in West and Central Europe.

The global average capacity factor was 82.4% in 2021, up from 80.3% in 2020.

Westinghouse, EDF to explore ATFs

Westinghouse Electric Company and French utility EDF have announced a joint venture to explore the functionalities of Westinghouse's EnCore enhanced Accident Tolerant Fuel (ATF) technology, the companies said in a statement.

Westinghouse, in the largest research and development program on enhanced fuel that it has conducted in Europe to date, will study its EnCore fuel in an EDF reactor for potential deployment

across the EDF nuclear fleet from 2030, Westinghouse said.

The initiative includes the licensing, qualification, fabrication, delivery, and operation of assemblies with Lead Test Rods (LTR), which it will deliver from its facility in Västerås, Sweden by 2023, in an EDF 1,300 MWe reactor.

Westinghouse will also conduct a post-irradiation exam to verify the enhanced accident tolerance features in EDF's reactors under operating conditions, it said.

"We are delighted to collaborate with EDF in this development program and highly value EDF's proactiveness and engagement in this critical, long-term effort," said Westinghouse President of Nuclear Fuel Tarik Choho.

X-Energy selects constructors for U.S. fleet

X-Energy has picked Zachry Group and the combined team of Burns & McDonnell and Day & Zimmermann as constructors to collaborate and work with the company on the next phase of design and development of its Xe-100 advanced reactor fleet, Zachry

said in a press release in July.

X-Energy was selected by the U.S. Department of Energy's Advanced Reactor Demonstration Program (ARDP) in 2020 to deliver a four-unit Xe-100 plant in Washington state, the first operational grid-scale advanced reactor plant in the United States.

The Xe-100 is a next generation, high-temperature gas reactor engineered to operate as a single 80 MW electrical unit and is optimized as a four-unit plant delivering 320 MW electric.

"We will collaborate and work side-by-side with these firms to ensure the successful design and delivery of the first and subsequent Xe-100 deployments. This is one of the ways X-energy is leading the new age of nuclear energy, enabling us to deploy safely, with a more cost-effective delivery model for the benefit of our customers," CEO of X-Energy Clay Sell said.



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# Industry News!

## Laser-mounted robots: the future of nuclear cleanup

By Paul Day



↑ LaserClean's hand held laser stripping rust from a metal surface (Source: LaserClean)

Generating electricity from nuclear fission can be a messy affair, leaving work surfaces and equipment encrusted with hard-to-shift radioactive materials that can take hundreds of hours of laborious grinding and/or chemical treatment to clean.

The result, aside from exhausted workers wielding loud and heavy equipment while stuck for weeks at a time in restrictive personal protection equipment, is a highly toxic runoff mix of cleaning materials, old paint and rust, and radioactive waste.

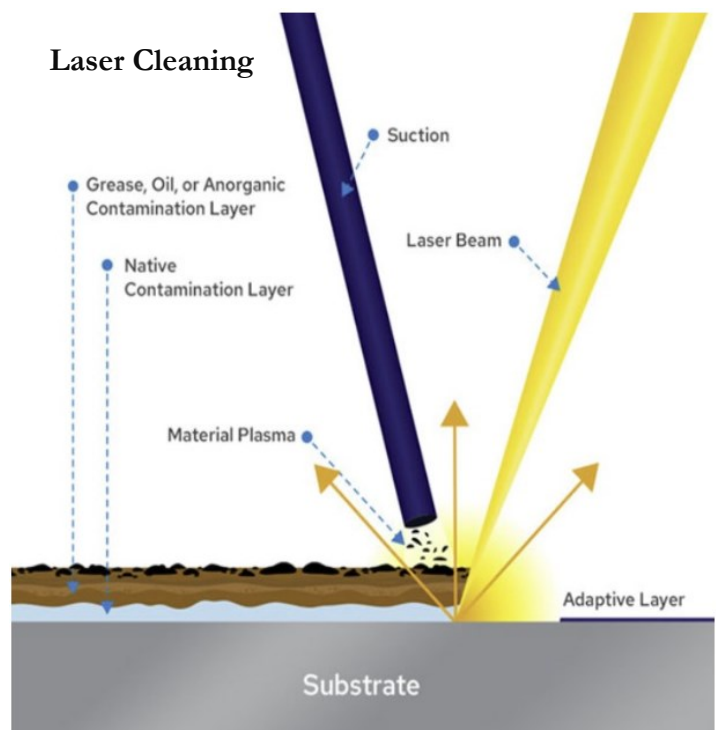
The original surface of any equipment or piece of infrastructure often remains too contaminated to recycle and must then be carefully disposed of, leaving tons of potentially recyclable material in the radioactive trash.

The jury is still out as to how far lasers can fully clean heavily contaminated, radioactive surfaces, but developers of the technology, who are already seeing strong demand from other heavy industries, claim the laser is the way forward for nuclear power cleanups.

“A laser can do things with a level of quality and adjustability that really cannot be achieved by any other method because they are so precise. Also, the process does not create secondary waste, which is an issue with most surface preparation or decontamination methods,”

says Timothy Niemeier, Vice President of Adapt Laser Systems.

“You have a waste stream that consists of whatever medium that was used to grit-blast off coatings or by solvent cleaning and even when there’s water cleaning of radiological materials, you end up with copious amounts of liquid waste. By using only focused light, we reduce tremendously the rad waste which of course in many cases result in tremendous cost saving from the disposal side.”



Source: AdaptLaser

### Industrial magnifying glass

The laser’s nozzle shines a slim strip of unfocused light around 5 centimeters long onto the painted metal



surface. By moving the nozzle, the strip is brought into focus like a point of light through a magnifying glass on a sunny day and the paint on the tray peels away and disintegrates to reveal the shiny metal surface below.

In less than five minutes, a tray the size of a large book has been completely stripped of decades-old red paint and is ready for reuse. “When I think of all the surfaces in a nuclear plant and what it takes to clean – the grinding, the scrubbing, the waste – I can eliminate 90% of that,” says President of the Canadian startup LaserClean Ed Gledhill.

The LaserClean headquarters is a small workshop in an industrial park in Ajax, southern Ontario, and his four-man team has seen business go from strength to strength since he started three years ago. “I get calls every day asking if I’m selling,” says Gledhill, pointing to the laser, the main body of which is around the size of a chest of drawers, the laser itself attached by long arm like a large vacuum cleaner.

Gledhill has signed an exclusive deal with a manufacturer in Italy and hopes to soon start expanding with franchises in five different locations.

LaserClean is a stone’s throw away from the Pickering and Darlington nuclear power plants and Gledhill says both operators have shown interest for laser cleaning for expander pipes and non-radioactive items though nothing official had been signed as yet.

“I know they’re looking at the website and what we’re doing because I can see the traffic and who’s visiting,” Gledhill says as one of his workers – a large man who goes by the name of ‘Moose’ – loads newly cleaned and gleaming molds for tractor tires onto the back of a truck.

“The trick is to get through to the people who need it and could use it.” It is only a matter of time before nuclear power operators adopt the cleaning method officially, saving them millions of dollars, time, and worker frustration, he says.

### Contaminated dump trucks

While the laser, which is already widely used in other industries, is yet to become a staple in the nuclear cleanup community, studies have shown that its acceptance as an essential piece of the nuclear toolkit is little more than a regulatory ruling away.

Over 1000 nuclear reactors are expected to be decommissioned within the next 30 years. Each nuclear reactor could generate over 120,000 drums (roughly 24,000 cubic meters) of solid wastes. The cost of waste

disposal in UK is estimated at £20,000/m<sup>3</sup> (\$25,000) for intermediate level wastes, according to the paper ‘The Potential Role of High-Power Lasers in Nuclear Decommissioning’ from Manchester University.

“Minimizing the waste volume is thus one of the important economical and environmental issues in nuclear decommissioning,” says the paper’s author Lin Li in the paper’s introduction.

The cost of waste is also calculated using weight, so stripping steel infrastructure and recycling it would be a crucial step in keeping weight, and so costs, down for the industry, says Adapt Laser Systems Niemeier.

In one case study conducted at Oak Ridge, laser ablation was used to decontaminate carbon-steel from 56 large dump truck beds that were being used to haul contaminated materials from sites around the decommissioning of K-25, a gaseous diffusion plant connected to the Manhattan Project.

The dump trucks had been leased to haul radioactive waste, but when it was time to return them, the leasing company would not accept the contaminated vehicles. Decontamination of the dump trucks usually involves manual grinding of contaminated metal using heavy handheld power tools and required 200-man hours and two technicians to complete a single dump truck bed.

Adapt Laser and Philotechnics Ltd were brought in to show what the lasers could achieve instead. One technician was able to clean the trucks using the laser ablation process in four hours and testing of the surfaces showed Alpha contamination had been fully removed and there was a significant reduction in Beta particles.

“If a laser can be used to clean tools, clean metals that would otherwise be rad waste, it’s going to enable the reuse of tools which would otherwise create a dose hazard to the personal using these tools. With the hazardous waste savings and the ability to recycle metals instead of burying them, they have residual value, instead of just cost,” says Niemeier.

And, with smaller, less powerful lasers – which, for a similar result, simply require more pass throughs – able to fit onto autonomous or remote controlled drones for hard-to-reach areas, laser-equipped robots working 24 hours a day seven days a week will soon be a reality.



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