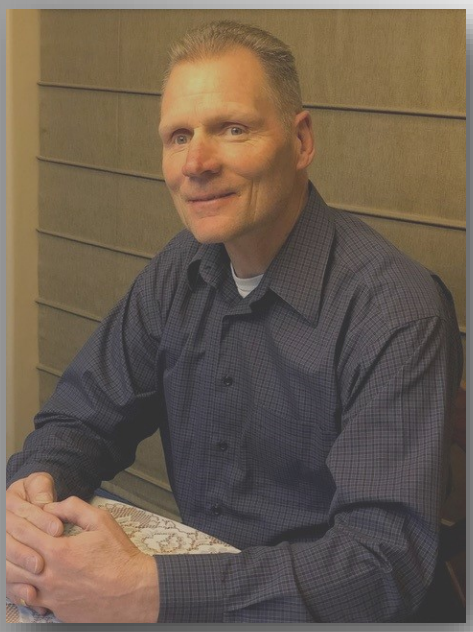
NRRPT

The NRRPT NEWS

OFFICIAL NEWSLETTER of the *National Registry of Radiation Protection Technologists*

May 2020 **Incorporated April 12, 1976**

Chairman's Message



Greetings fellow RRPTs!

Welcome to Spring!

Welcome to the Spring 2020 **NRRPT** Newsletter. First, let me thank the Newsletter Committee and all of the authors for putting in the long hours and hard work to put such a great edition together! This edition includes an article showcasing one of our exam panel members and the very valuable work that he does. The newsletter also has an article that highlights some of the accidents that occurred (thankfully not in the United States) that might just make you smile with the knowledge that being the professional that you are that you help keep your work place the safe environment that it is. This newsletter also has some great photographs of the exam panel members in action at the mid-year meeting in Key West, Florida. Speaking of the mid-year meeting, the Board of Directors and the Panel of Examiners had a very productive meeting working to get new exams ready and performing lots of exam bank maintenance. Exam Panel Chair Dave Wirkus somehow convinced all present to take the wiseman exam in preparation for the new exam template. Of course after burning up all the brain cells taking the exam we all went out for some great food and wonderful company during the NRRPT night out. . Finally, don't forget to check out the article written by one of our board members, Michelle Kovach, honoring our MOST AWESOME Executive Secretary and her 30 years of service to the NRRPT.

Inside This Issue

Contacts

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Congratulations

I would like to welcome the three RRPTs who successfully passed the December 2019 Canadian exam as well as the twenty-four RRPTs who passed the February 2020 exam bringing our Registry to an amazing 5685. The Registry will soon be an incredible 6000 members strong. With everyone working more hours and having less free time you made it a priority to study and prepare yourself to successfully challenge the exam – GREAT JOB! All of you should be very proud of your achievement! I am always interested in how people are preparing for the exam so please feel free to contact me with how you successfully prepared for the exam or any other feedback that you may have.

Condolences

I would like to take a moment to say good bye to an old friend – Mike Boyle. Mike was the Chairman of the Board of Directors when I attended my first meeting and was looking to get involved with the Panel of Examiners. He was one of the first to welcome me to the meeting and really made me feel welcome. He was a genuinely nice man who always had time to chat and had a wonderful way of making you laugh. He was a strong supporter of the NRRPT and will certainly be missed by me and many others.

Next Meeting

As I write this, the Annual HPS Meeting has been cancelled and that leaves our Annual Meeting in limbo as well. The Board of Directors are working hard to come up with alternatives and will finalize plans in the coming weeks as more is known about relaxing travel and meeting restrictions. Once a plan is finalized we will make sure to notify the Registry as we would love to see as many of you that can make it.

Respectfully,
Rick Rasmussen
NRRPT, Chairman of the Board

Welcome New NRRPT Members

Congratulations to the following individuals who successfully passed the

NRRPT Examination on February 22, 2020:

Tyler Alcorn
Ryan M. Brown
Janson C. Capron
Jeffrey Chase
Elias S. Cotton
Leland D. Davis
Anna T. Deak
Robert E. Dickenson
Matthew C. Dickson
Jeffrey A. Divis
Geoff B. Hall
Ian S. Hamilton
Mackenzie A. Jeffrey
Brandon A. Lucero
Melissa L. Madison
James P. McGowan
Matthew R. Meengs
Samuel F. Rivenbark
Andrew J. Rollins
Shawn C. Schmitt
Carson Swanek
Roman Valenzuela
Frederick S. Van Stone
Brandon J. Warburton

Congratulations to the following individuals who successfully passed the

NRRPT Canadian Examination on December 9, 2019:

David K. Collins
Yu Q. Duan
Michael L. Maurer

Meet Two Stewards of Safety in the Monticello Nuclear Plant

By Don Krause and Paul Zurawski

Details: Paul Zurawski and Don Krause walked the catwalk above a 30-foot-tall pipe and pointed their flashlights at valves and lables around a nuclear reactor.

Zurawski, senior resident inspector with the Nuclear Regulatory Commission, motioned toward valves installed in the Monticello nuclear plant after the 2011 Fukushima nuclear accident in Japan

"It's all about pressure relief," Zurawski said. "It's relieving the pressure inside the torus."

The torus is the 30-foot-diameter pipe that encircles the reactor and holds water to pump into it if there's an accident at the Monticello Nuclear Generating Station. It's one of the safety mechanisms built into the plant.

Zurawski and Krause, a resident inspector with the NRC, serve as another safety mechanism at the nearly 50-year-old plant. As their titles imply, the two men live in the Monticello community and inspect the plant full-time.

Xcel Energy, Minnesota's largest electric utility, hopes to extend the Monticello plant's license from 2030 to 2040 as it closes its coal plants.

Nuclear power holds an important place in Xcel's energy output, and it is situated to play an important role in Minnesota's transitioning energy landscape.

The U.S. Nuclear Regulatory Commission oversees commercial nuclear power plants and medical uses of nuclear materials. The agency is neutral about the future of nuclear, seen by some as a beneficial, carbon-free energy source and others as high-risk energy with long-lasting, hazardous waste.

As long as civilians use nuclear materials, said NRC spokeswoman Viktoria Mitlyng, "we are here to ensure that that is done safely for the public and the environment."

Zurawski and Krause took two St. Cloud Times journalists through the plant in early November to share what they do on a day-to-day basis. Even on the tour, Krause kept up his inspection duties.

What do the inspectors do?

The two have unfettered access to the plant, staff meetings and the plant's list of things it needs to correct. Other specialist inspectors do regular reviews, too.

The federal agency has its own, coffee-scented office within the campus of the power plant.

Zurawski and Krause usually start their days around 5 a.m. They sit in on shift change meetings, visit the control room, drop in to observe various procedures around the plant, always looking and listening for anomalies, Zurawski said.

He did just that in a sky-blue room housing a 20-cylinder diesel engine that serves as a safety backup if off-site power to the plant fails.

Zurawski listened and caught the sound of a wobble in the motor that circulates lube oil. Below it, a bit of oil indicated a leak.

Plant staff were already aware of the problem and put a sticker nearby to show the issue was added to the corrective action system, Zurawski explained.

On the other side of the engine room, he stopped to listen again to a slight hiss of air. He knew from experience the issue didn't pose a safety risk.

"You understand what the plant sounds like, and you get used to it," Zurawski said. One of the inspectors' goals is to identify things before they become problems.

"You ask yourself, where could this possibly lead," Krause said. "How could this really go belly up? Then you ask the questions, find out how they're going to respond."

U.S. Nuclear Regulatory Commission resident inspectors Donald Krause and Paul Zurawski talk about their work behind copies of the federal regulations Wednesday, Nov. 6, 2019, at the Monticello Nuclear Generating Station.

Who are the Monticello inspectors?

Krause, 63, grew up in Green Bay, Wisconsin, as nuclear power plants were being built in the area.

"I grew up with nuclear power from its inception," Krause said. "I've been in it (the field) since the early '70s. I've seen it change a lot over the course of the years. It's been up and down. Three Mile Island, Chernobyl, Fukushima, all of these have done things good and bad for the industry."

Krause enlisted in the Navy and worked as an electrician with a nuclear generator, and he earned his master's in nuclear engineering. He worked with licensed nuclear operators and worked on the Department of Energy side as well.

The inspector job requires Krause to be on call most of the time, but his hobby helps him unplug. In his free time he likes to scuba dive in the Caribbean and Lake Superior.

"I get out and get under the water where no one can get me," Krause said.

Both he and Zurawski share a similar disposition. They're disciplined, process-oriented and introverted, even though the job requires them to constantly communicate with plant operators and others in the regulatory agency.

Zurawski, 59, has a passion for oversight and safety, he said. He, too, worked in the nuclear industry before he became a regulator.

Zurawski grew up in Illinois and earned a bachelor's in mechanical engineering before he launched his career with energy company Exelon.

In 2006, he started with the NRC and served first at Xcel's Prairie Island Nuclear Generating Station. Inspectors aren't allowed to stay longer than seven years with any plant, so that they remain independent observers.

They can't fraternize with plant employees, but they have good professional relationships with the folks they work with, Krause and Zurawski said.

And the job comes with an independence Zurawski likes.

"They (at the agency) really trust me to be the eyes and ears for the region, for the agency," he said.

Where can you find their work?

The inspectors spend most of their time observing things in the plant, and they rarely intervene.

They might step in if there's an immediate human safety risk or equipment could be irreversibly damaged.

Inspectors track all corrective actions at the plant. The more severe the issue, the more oversight by regulators. There could be between 5,000 and 6,000 such items a year, Zurawski said. And they're reported online through records on the NRC's website.

There are daily reports that highlight mundane issues. And there are collections of escalated enforcement actions, last updated in 2017.

The last escalated enforcement action in Monticello happened in December 2016: A "failure to plan and perform maintenance affecting the safety-related high pressure coolant injection system," according to a public letter to the site vice president.

Members of the public can review quarterly inspections and annual reports and reports about emergency preparedness.

All that centers around safety.

"There's homes that are close by," Zurawski said. "As resident inspectors, we have families in the immediate area. We have an interest to make sure, personally, that things are safe. But it's more than that. It's the public as a whole. And this plant is safe."

In Memoriam

Michael J. Boyle, NRRPT

November 4, 1955 – March 4, 2020

Michael Boyle, age 64, of Madison, passed away on March 4, 2020 at his home surrounded by family.

He was born on November 4, 1955 to Joseph and Genevieve Supernavage Boyle and was a native of Salem, New Jersey. He retired from Entergy and was a member of the National Registry of Radiation Protection Technologists. He was a Parishioner of St. Joseph Catholic Church and served in the Knights of Columbus.

Michael is survived by his wife of 42 years, Sharon Brister Boyle, daughters, Jessica Leigh Mogford and Angela Christine Piekielko; son, Daniel Joseph Boyle; mother, Genevieve Thompson; sister, Michele ElMurr and grandchildren, Logan John Piekielko, and Lucas Michael Piekielko.

He was preceded in death by his Father, Joseph Carl Boyle.

Mike Boyle Memoriam Addendum — from DeeDee McNeill, NRRPT Executive Secretary

Mike was a member of the NRRPT since 1980. He was elected to the Board of Directors in 1985 and then again in 1992. Mike was elected Chairman of the Board and served in that position from January 1, 1996 to January 1, 1998. He was awarded Fellow status in 1998. He also served on the Panel of Examiners from 1998 to 2003. Mike was extremely supportive of the NRRPT organization until his death. He was a happy man, a gentle giant and will be deeply missed.

Mike Boyle Memoriam Addendum — from Bill Peoples, NRRPT Past Chairman of the Board

Mike Boyle was truly larger than life and at 6'8" larger than most other people as well. I remember Mike as someone very knowledgeable, a good friend, quick with a wry smile and a fondness for a glass of Dewar's scotch after a long day.

He was a husband, father, grandfather and friend to many and also devoted to the objectives of the NRRPT. Mike served the Registry in a variety of capacities including Vice-Chairman and Chairman. He was passionate about the Registry establishing a currency program to protect the integrity of the credential throughout the health physics community. This was not a popular topic at the time but after much debate & discussion, the Registration Maintenance Program was developed and voted into existence. This program assures that Registered Radiation Protection Technologists (RRPTs) maintain "currency" in their professional qualification of Active Registration. The discussion started under Mike Boyle's term, approved under my term and implemented during Dave Kent's term. While many people were involved in this effort, Mike Boyle initially recognized the need and provided the initial push. Thank you Mike!

Mike Boyle Memoriam Addendum — from Dave Biela NRRPT Past Chairman of the Board

I was so sad to hear about the passing of Mike Boyle. Mike was one of the first people I met when I got a term on the NRRPT Exam Panel in 1990. First impression of Mike was that he was a big guy, one that you would not want to run into in an alley late at night, but once you got to know him, he was a gentle giant. Because of Mike's size, he was elected as our Sgt. at Arms (a made up position for the NRRPT) which meant that when we needed a beverage run into some maybe slightly scary areas of a city, Mike had to go.

I think I saw Mike get upset only once. We were in Seattle and having a gathering in his hotel room. After a few warnings from hotel security for noise and Mike warning us to be quiet, he got upset and tossed a few people out of his room when a certain someone (Lindsay Nelson LN) just could not keep it down. Side note: My wife Diana Biela, who attended many of the NRRPT meetings with me over the last 30 years, was also upset that night at LN because she was on a roll kicking butt, taking money from him and Curt Repass at liar's poker and it had to end!

Diana and I will miss Mike and will always remember him as being a great person.

RIP our friend/colleague

NRRPT Board & Panel Meeting in Key West, FL

Board/Panel Members taking the Wiseman Exam

Happy Spring

Cheers to 30 Years!

By Michelle Kovach

During the 2019 annual meeting, we celebrated the anniversary of a very special person. DeeDee McNeill. Many of you know her as the woman that answers the phone, the one you contact for details to take the exam, the one that collects your dues, and a variety of other National Registry of Radiation Protection Technologists (NRRPT) related items. DeeDee is much more than that.

In 1983, Claude Hooker, one of NRRPT's founding members, was elected NRRPT Secretary/Treasurer. Over the next couple years his "volunteer" duties as Secretary/Treasurer began to take up a lot of his time so asked his wife Bunny to help. Bunny was happy to help but as the registry and Secretary/Treasurer duties continued to grow, she thought it should be a paid position. Bunny submitted a proposal to the Board of Directors to establish an "Executive Secretary" position which they approved in 1985 and hired Bunny to fill the part-time position. As the registry membership increased, computing became a more reasonable and efficient way to conduct business so the NRRPT purchased a Macintosh computer. Not familiar with computers, Bunny began looking for someone that could help teach her how to use the Mac. DeeDee's brother was married to Claude and Bunny's daughter so they knew each other well.

DeeDee began working as a text processor for Pacific Northwest National Laboratories (PNNL) in 1979. After having her two boys in 1985 and 1987, she began working part-time. Her job duty during her part-time employment at PNNL was training employees on the Mac and PC. Bunny knew this and asked if she would be interested in training her on the Mac. DeeDee agreed!

In 1989, Claude was planning to retire from employment soon and his term on the NRRPT Board was ending. Bunny was also ready to end her position as Executive Secretary. She thought DeeDee was the obvious replacement since she had helped with some data entry and was becoming familiar with the NRRPT organization. Bunny discussed the replacement with the Board Chairman, Paul Lovendale. They agreed to invite DeeDee to the annual meeting in Albuquerque, NM. It was there the NRRPT Board of Directors hired DeeDee to fill the part-time Executive Secretary position. In 1990, the American Council on Education recommended college credits for passing the NRRPT exam. This created many candidates requesting to take the exam, which created much more work for the Executive Secretary. In 1992, DeeDee was hired to a full-time position, she resigned from her job at PNNL, and has worked full-time for NRRPT ever since.

As Executive Secretary, DeeDee has helped all those in every position of NRRPT. She knows the by-laws better than the authors, facilitates the website, is in regular contact with registrants, coordinates annual and mid-year meetings (including nights out, hotels, meeting rooms, scheduling), maintains records of meetings, collects funds, and publishes our newsletters (just to name a few). While she has never formally held an elected or appointed NRRPT office, she's actually the Chairman and Vice-Chairman of the Board of Directors/Panel of Examiners, the Treasurer, and Chairman of each of NRRPT's nine committees, and holds the numerous NRRPT appointments. DeeDee is humble, kind, a role model, and all things that so many of us aspire to be. Thank you DeeDee for giving so much of yourself to make NRRPT a success.

Bob Wills, DeeDee & Dave Biela

The Arthur F. Humm, Jr. Award was awarded to DeeDee at the 73rd Board of Directors/Panel of Examiners meeting in Albuquerque, NM on January 24th, 2010. At that time, DeeDee had provided over 20 years of service to the Registry and touched many through her dedication and support.

The Arthur F. Humm, Jr. Award is provided to an individual who has shown outstanding support to the Registry, the Board or Exam Panel. The Awards Committee and Board of Directors unanimously agreed that DeeDee McNeill exemplifies the level of support this award represents.

Kelli Gallion-Sholler, DeeDee & Karen Barcal

"20 years ago, I joined the NRRPT Panel of Examiners as one of only two females at the time. I didn't know anyone on the Board or Panel and quickly wondered what I had gotten myself into, it felt like it was my first day at a new school. DeeDee quickly took me under her wing, as she does with many of us and made sure that I felt welcome. The rest is pretty much history! In 2004 I became the first female Chairman of the Board of Directors, Karen Barcal became the first female Chairman of the Exam Panel and DeeDee was the Executive Secretary so we dubbed ourselves the "chicks in charge", but everyone knew who was "really" in charge, it was DeeDee of course! DeeDee is the glue that keeps our awesome organization together. For those of you that know DeeDee, know that she is humble, kind, and passionate about what she does. Several years ago, she broadened her horizons and now shares her expertise with other RP related organizations such as the Nuclear Suppliers Association (NSA). In July 2019, I was fortunate to able to be a part of her 30th NRRPT Anniversary celebration. I am very proud of DeeDee and her accomplishments and appreciate her continued dedication to the NRRPT and our industry. Cheers to 30 years my friend!"

-Kelli Gallion-Sholler, (past NRRPT Chairman of the Board, 2004-2007)

DeeDee & Dave Biela

"Even though she had only been doing her job for six months before I got on the Panel of Examiners, DeeDee was so welcoming and helped me through my first meeting. She has been so welcoming to all of us Board and Panel members as well as our families that we have brought to the meetings over the years. As my wife Diana said last meeting, over the course of 30 years she believes each of our four boys have had a crush on DeeDee at one time or another."

-Dave Biela (past NRRPT Chairman of the Board, 2008-2010)

NRRPT BLAST FROM THE PAST!

Good evening Mr. and Mrs. NRRPT, from border to border and coast to coast and all the ships at sea. Let's go back in time…

Special News Commentary

So, you're a rad tech working at a nice and safe nuclear plant or DOE facility. Or, the job may suck and you don't like how things are run.

Count your blessing my friends. You don't work in Russia. As a follow-up to my last 2 columns on the Mayak Enterprise in The Urals (Russia), I thought you might like to see all the fun they've had over the years.

Satelite Image Mayak Facility

The dates are European style – day, month, year.

15/03/1953 - Criticality accident. Contamination of plant personnel occurred.

13/10/1955 - Rupture of process equipment and the destruction of a process building.

21/04/1957 - Criticality accident. One operator died from receiving over 3000 rad. Five others received doses of 300 to 1,000 rem and temporarily became sick with radiation poisoning.

29/09/1957 - Kyshtym disaster.

02/01/1958 - Criticality accident in SCR plant. Plant workers conducted experiments to determine the critical mass of enriched uranium in a cylindrical container with different concentrations of uranium in solution. Personnel received doses from 7600 to 13,000 rem, resulting in three deaths and one case of blindness caused by radiation sickness.

12/05/1960 - Criticality accident. Five people were contaminated.

26/02/1962 - Destruction of equipment. An explosion occurred in the absorption column.

09/07/1962 - Criticality accident.

16/12/1965 - Criticality accident. Seventeen individuals received exposure to small amounts of radiation over a period of 14 hours.

10/12/1968 - Criticality accident. Plutonium solution was poured into a cylindrical container with dangerous geometry. One person died, another took a high dose of radiation and radiation sickness, after which he had both legs and his right arm amputated.

11/02/1976 - Unsafe actions of staff development at the radiochemical plant caused an autocatalytic reaction of concentrated nitric acid and organic liquid complex composition. The device exploded, contaminating the repair zone and areas around the plant. The incident merited an International Nuclear Event Scale rating of 3.

10/02/1984 - Explosion.

16/11/1990 - Explosion. Two people received burns and one was killed.

07/17/1993 - Accident at radioisotope plant, resulting in the destruction of the absorption column and release into the environment of a small amount of α-aerosols. Radiation emission was localized at the manufacturing facility of the shop.

08/02/1993 - Depressurization of a pipeline caused 2 m^3 of radioactive slurry (about 100 m^2 of contaminated surface) to leak to the surface of the pulp radioactive activity of about 0.3 Ci. Radioactive trace was localized, contaminated soil removed.

12/27/1993 - Incident at radioisotope plant where the replacement of a filter resulted in the release into the atmosphere of radioactive aerosols. Emissions were on the α-activity of 0.033 Ci, and β-activity of 0.36 mCi.

04/02/1994 - Recorded increased release of radioactive aerosols: the β-activity of 2-day levels of Cs-137 subsistence levels, the total activity of 7.15 mCi.

30/03/1994 - Recorded excess daily release of Cs-137 in 3, β-activity - 1,7, α-activity - by 1.9 times. In May 1994 the ventilation system of the building of the plant spewed activity 10.4 mCi β-aerosols. Emission of Cs-137 was 83% of the control level.

07/07/1994 - The control plant detected a radioactive spot area of several square decimeters. Exposure dose was 500 millirems per second. The spot was formed by leaking sewage.

Fissile Material Storage Facility

31/08/1994 - Registered an increased release of radionuclides to the atmospheric pipe building reprocessing plant (238.8 mCi, with the share of Cs-137 was 4.36% of the annual emission limit of this radionuclide). The reason for the release of radionuclides was depressurization of VVER-440 fuel elements during the operation segments idle all SFA (spent fuel assemblies) as a result of an uncontrollable arc.

24/03/1995 - Recorded excess of 19% of normal loading apparatus plutonium, which can be regarded as a dangerous nuclear incident.

Tatarskaya Karabolka – evacuated village with high radiation levels

15/09/1995 - High-level liquid radioactive waste (LRW) was found in flow of cooling water. Operation of a furnace into the regulatory regime has been discontinued.

21/12/1995 - Cutting of a thermometric channel exposed four workers (1.69, 0.59, 0.45, 0.34 rem) when operators violated process procedures.

24/07/1995 - Cs-137 aerosols released, the value of which amounted to 0.27% of the annual value of MPE for the enterprise.

14/09/1995 - Replacement covers and lubrication step manipulators registered a sharp increase in airborne α-nuclides.

22/10/1996 - Depressurization occurred in a coil while channeling cooling water from one storage tanks of high-level waste. The result was contaminated pipe cooling system repositories. As a result of this incident, 10 people were exposed to radiation dose of 2.23 to 48 milli-Sieverts.

20/11/1996 - A chemical-metallurgical plant in the works on the electrical exhaust fan caused aerosol release of radionuclides into the atmosphere, which made up 10% of the allowed annual emissions of the plant.

27/08/1997 - In building RT-1 in one of the rooms was found to be contaminated floor area of 1 to 2 m², the dose rate of gamma radiation from the spot was between 40 and 200 mR / s.

06/10/1997 - Recorded increasing radioactivity in the assembly building, the RT-1. Measurement of the exposure dose indicated up to 300 mR / s.

23/09/1998 - While increasing power output of reactor P-2 ("Lyudmila") after engaging automatic protection allowable power level was exceeded by 10%. As a result, the three channels of the fuel rod seal failed, resulting in the contamination of equipment and pipelines of the first circuit.

More recent major accidents

In 2003, the plant's operating licence was revoked temporarily due to liquid radioactive waste handling procedures resulting in waste being disposed into open water.

In June 2007, an accident involving a radioactive pulp occurred over a two-day period.

In October 2007, a valve failure during transport of a radioactive liquid resulted in spilling of a radioactive material.

Grave of Valentin Galuzin, controlling engineer at the "Ruslan" reactor of the MAYAK complex

In 2008, a repair worker was injured during a "pneumatic" incident, involving a quantity of alpha emitter release. The worker's finger was severed and the wound contaminated. The remaining fingers were amputated in a bid to minimize further spread of alpha-particle emitters throughout his body and subsequent radiological consequences.

Downwind from Mayak, Lake Ulagach

In September 2017, possible association with the airborne radioactivity increase in Europe in autumn 2017. Russia confirms 'extremely high' readings of radioactive pollution in Argayash, a village in the Chelyabinsk region of the southern Urals. Argayash is located 10 miles south of the Mayak reactor. In January 2018, the French Institute of Radioprotection and Nuclear Security (IRSN) reported that Mayak could be the cause of the contamination.

Research Sources:

All of the above list transferred directly from the Russian Wikipedia entry for "Mayak". Translated and some grammatical errors corrected

Sources and Effects of Ionizing Radiation – 2008 Report to the General Assembly" (PDF). United Nations Scientific Committee on the Effects of Atomic Radiation. 2011. Annex C: Radiation exposures in accidents. Archived (PDF) from the original on 31 May 2013.

IRSN (January 2018). "Report on IRSN investigations of Ru 106 in Europe in October 2017" (PDF). www.irsn.fr. Retrieved February 16, 2018.

"Russia confirms 'extremely high' readings of radioactive pollution". Yahoo News. Retrieved 3 December 2017.

Some photos in this article are from Wikipedia and other Photos by ECODEFENCE: ecodefense@online.ru

Pete Darnell, RRPT, CHP, after-the-fact reporter

If you'd like to join the Panel of Examiners please contact one of the following:

Exam Panel Chairman—Dave Wirkus—wirkdl63@gmail.com

Executive Secretary—DeeDee McNeill—nrrpt@nrrpt.org

NRRPT Night-Out in Key West, FL

*** Thank you to our generous NRRPT Night-Out sponsors ***

**Bill Peoples (BHI Energy), Rick McCormick (Master-Lee Decon Services)
Laura Davidson (Envirachem), Eddie Benfield (Duke Energy),
Gregg Johnstone (UniTech) and Radiation Simplify**

NRRPT Night-Out in Key West, FL

We also celebrated Dave Wirkus' (center) birthday at our Night-Out

Our redheads: Karla Rendell, Donna Bayless & Laura Davidson

Kelli Gallion-Sholler, Karen Barcal & DeeDee McNeill (previously titled "Chicks in Charge" because Kelli was Board Chair, Karen was Panel Chair and DeeDee was (and still is) Executive Secretary

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*(*Please reference NRRPT when sending in your resume)*

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The cleanup mission at the INL Site focuses on addressing the key elements of the Idaho Cleanup Project: dispositioning transuranic waste, spent nuclear fuel, and high-level radioactive waste in accordance with national and state regulatory agreements. Specific projects include:

- The Advanced Mixed Waste Treatment Project, tasked with retrieving and processing 65,000 cubic meters of above-ground stored transuranic waste and shipping the material to the Waste Isolation Pilot Plant in New Mexico for permanent disposal.
- The Accelerated Retrieval Project, which is retrieving targeted transuranic and hazardous waste from 5.69 acres of an unlined, Cold War-era landfill, processing the waste, and dispositioning it offsite.
- Managing spent nuclear fuel including transferring it from wet to dry storage.
- The Calcine Retrieval Project, responsible for developing a retrieval technology to remove 4,400 cubic meters of a dry, granular radioactive waste from six storage bins.
- The Integrated Waste Treatment Unit Project, which is commissioning and operating a steam reforming facility to convert 900,000 gallons of liquid radioactive waste to a dry, granular solid.
- The Environmental Restoration Program, which is responsible for ongoing institutional controls such as air and groundwater monitoring, groundwater treatment, and other environmental protection measures.

Fluor Idaho supports and partners with DOE, regulators, oversight agencies, our employees, our subcontractors and our community to provide safe, reliable, and cost-effective project performance.

Mirion Technologies

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Mirion Technologies is a leading provider of innovative products, systems and services related to the measurement, detection and monitoring of radiation. The company delivers high quality, state of the art solutions that constantly evolve to meet the changing needs of its customers. With the addition of the Canberra brand in 2016, Mirion expanded its portfolio and the breadth of its expertise to bring a new standard of solutions to the market. Every member of the Mirion team is focused on enhancing the customer experience by delivering superior products, exceptional service and unsurpassed support. Mirion Technologies: Radiation Safety. Amplified.

www.reefindustries.com ri@reefindustries.com

GRIFFOLYN®: CONTAINMENT SYSTEMS FOR OUTAGE, MAINTENANCE & CONSTRUCTION PROTECTION

For more than four decades, Reef Industries has been providing a variety of specialty reinforced plastic laminates to the nuclear industry. These products are ideal for containment during outages, construction, maintenance and decommissioning projects. Strong, yet flexible, lightweight and easily handled, Griffolyn® products are highly resistant to tears and have an exceptional outdoor service life.

Griffolyn® can be produced with specialized properties including fire retardancy and low contamination for safety applications around critical materials or work areas. Performance features such as corrosion inhibition and anti-static properties are also available for sensitive equipment. Products range in weight, thickness and special composites, and are ideal for:

- Floor covers
- Custom box liners
- Containment enclosures
- Bags
- Tubing
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- Shipping covers for contaminated equipment
- Secondary containment systems
- Decontamination pads
- Underslab vapor retarders for critical applications
- Feed water heaters/rotor covers
- Soft-sided packaging for surface contaminated objects
- FME barriers

The advantages of using Griffolyn® containment products for new plant construction and maintenance projects are vast but the immediate recognized benefit is the reduction in the costs associated with improving project schedules. Griffolyn® products reduce the volume of radwaste, which in turn lowers disposal costs.

From assisting in the design of uniquely configured and fabricated products to one of a kind materials custom built from scratch, Reef Industries' highly experienced staff can fabricate a product that meets your exact requirements. Custom printing capabilities are also available to meet any message requirements. We can custom configure a product with nylon zippers, hook and loop fasteners, grommets, D-rings, webbing, pipe loops or many other possibilities. Reef Industries can work with exact dimensions, sketches and/or ideas to custom design and build a product specifically suited for your needs.

Stock rolls and sizes are available for immediate shipment. If you require dependable, long-lasting, cost-effective on-site fabrication tape, Reef Industries can supply you with pressure sensitive and/or double-sided tape. Custom design and fabrication are available in 7-10 days.

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Among the nation's top utility companies in size and sales, Ameren is the parent of Ameren Missouri, based in St. Louis, MO, and Ameren Illinois, based in Springfield, IL. Ameren is also parent to several nonregulated trading, marketing, investment and energy-related subsidiaries. Ameren employees, totaling approximately 7,400, provide energy services to 1.5 million electric and 300,000 natural gas customers over 44,500 square miles in Illinois and Missouri.

Cabrera Services

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Cabrera is a trusted integrator for radiological remediation and munitions response solutions. We bring world class expertise in health physics and munitions response along with a broad base NRC radioactive materials license to solve our client's toughest challenges. As an integrator, we bring our clients:

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Detroit Edison Fermi 2

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Detroit Edison operates the Fermi 2 Nuclear Power Plant located in Monroe, MI along the shores of Lake Erie. Fermi is a 1200 MW power plant supplying electricity to the metropolitan Detroit area.

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The new Duke Energy, which is the product of a merger with Progress Energy, is the largest electric power holding company in the United States with more than $100 billion in total assets. Its regulated utility operations serve more than 7 million electric customers located in six states in the Southeast and Midwest. Its commercial power and international business segments own and operate diverse power generation assets in North America and Latin America, including a growing portfolio of renewable energy assets in the United States. Headquartered in Charlotte, N.C., Duke Energy is a Fortune 250 company traded on the New York Stock Exchange under the symbol DUK.

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Incorporated in 1983, Frham Safety Products, Inc. continues its sole purpose of manufacturing and distributing products to the Nuclear Power Utilities, DOE, DOD, Naval facilities as well as several industrial accounts and related users of safety supplies and equipment.

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HI-Q Environmental Products Company is an ISO 9001:2008 certified designer and manufacturer that has been providing Air Sampling & Radiation Monitoring Equipment, Systems and Services to the nuclear and environmental monitoring industries since 1973. Hi-Q's product line ranges from complete stack sampling systems to complex ambient air sampling stations. HI-Q's product catalog includes: Continuous duty high & low volume air samplers, radiation measurement instrumentation, radiation monitoring systems, air flow calibrators, radioiodine sampling cartridges, collection filter paper and both paper-only or combination style filter holders. Along with the ability to design complete, turn-key, stack and fume hood sampling systems, HI-Q has the unique capability to test ducts and vent stacks as required by ANSI N13.1-1999/2011.

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Master-Lee is a leading supplier of refueling, maintenance, inspection, operations and outage management services for PWR Nuclear Power Plants in the U.S. Market and has supported the major NSSS companies in the performance of similar tasks at BWR sites. Master-Lee also designs, fabricates and supplies specialty products, tools and parts in support of our various product lines. These capabilities are provided by our broad range of Product Lines: Refueling and Related Services; Pump and Motor Services; NDE – Eddy Current Testing Services; Specialized Reactor Services; Decontamination Services; Decommissioning Services; Engineered Products; and Technical Services.

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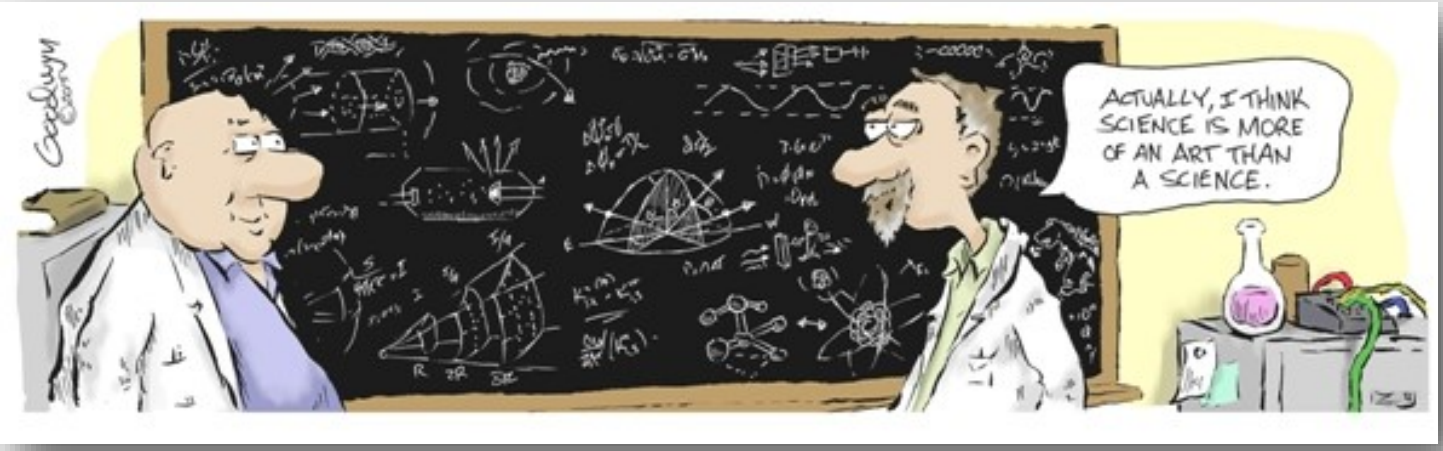

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