

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

Title:                   DSFM Regulatory Conference 2019  
                                  Conference 3

Docket Number:     (n/a)

Location:             King of Prussia, Pennsylvania

Date:                 Tuesday, September 17, 2019

Work Order No.:     NRC-0613

Pages 1-70

**NEAL R. GROSS AND CO., INC.**  
**Court Reporters and Transcribers**  
**1323 Rhode Island Avenue, N.W.**  
**Washington, D.C. 20005**  
**(202) 234-4433**

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

+ + + + +

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

DIVISION OF SPENT FUEL MANAGEMENT

+ + + + +

DSFM REGULATORY CONFERENCE 2019

(REG CON)

+ + + + +

TUESDAY

SEPTEMBER 17, 2019

+ + + + +

The conference met in the Crowne Plaza  
Philadelphia-King of Prussia, 260 Mall Boulevard, King  
of Prussia, Pennsylvania, 19406, Freedom II Conference  
Room, at 6:00 p.m., Daniel Mussatti, facilitator,  
presiding.

PRESENT

DANIEL MUSSATTI, Facilitator

MICHAEL LAYTON,

Director, Division of Spent Fuel Management

RAY LORSON,

Regional Deputy Administrator, Region I

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

## Session I:

JOHN McKIRGAN, DSFM

CHRIS ALLEN, DSFM

BRUCE WATSON, DUWP

ROD McCULLUM, NEI

JOHN WISE, DSFM

## Session II:

TONY DIMITRIADIS, NRC Region I

BRIAN GUTHERMAN, Gutherman Technical Services

RANDALL GRANAAS, Southern California Edison

KATHERINE WARNER, NRC Region I

JEREMY TAPP, DSFM

JEREMY RENSHAW, EPRI

## Session III:

YOIRA DIAZ-SANABRIA, DSFM

HEATHER WESTRA, Prairie Island Indian Community

CARLYN GREENE, UxC LLC

NEIL SHEEHAN, NRC Region I

JOSE CUADRADO, DSFM

ALSO PRESENT

HAILE LINDSAY, NRC Staff

CARLA ROQUE-CRUZ, NRC Staff

TOMEKA TERRY, NRC Staff

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

C-O-N-T-E-N-T-S

Introduction to Session III: External Engagement  
and Outreach

by Yoria Diaz-Sanabria, Chair.....4

Prairie Island Indian Community

by Ms. Heather Westra, Prairie Island Indian Community

NRC's Engagement and Outreach Efforts from a  
Media Perspective

by Ms. Carlyn Greene, UxC, LLC.....16

Ways to Improve Public Outreach

by Mr. Neil Sheehan, NRC.....34

Openness, Clarity, and Independence

by Mr. Jose Cuadrado, NRC.....48

Questions and Answers.....65

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

P-R-O-C-E-E-D-I-N-G-S

6:06 p.m.

MS. ROQUE-CRUZ: So while we get the operator, I just want to give a few reminders for tomorrow. We, we'll have our welcoming remarks at 9 a.m., so that's going to be a bit later than we did today.

So 9, we're going to be starting, so if you can be here promptly at that time, or even a bit earlier, if you haven't gotten your name tag, or if you haven't signed in, please come in a little bit earlier so that you can do that. I think we have the phone lines ready, so we are good to go. If you guys are ready, we are ready, and we're going to have Yoira Diaz-Sanabria, who's the Chair for this session, and she's going to introduce the speakers.

INTRODUCTION TO SESSION III: EXTERNAL

ENGAGEMENT AND OUTREACH

MS. DIAZ-SANABRIA: Hello, everyone. Good evening. Thanks for coming. I'm very excited about this session. I'm glad that you joined us tonight. Same for the folks that are on the phone. Welcome to one of the best sessions that I said from the REG, so, I mean, from the REG CON.

So we have a great group of panelists

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

tonight. Going to be presenting them. Our first presenter is Heather Westra. She worked in the Indian country for close to 30 years. Ms. Westra has been working with the Prairie Island Community for 20 plus years, focusing primarily on regulatory and environmental issues related to the Prairie Island Nuclear Generating Plant, an independent spent fuel source installation, immediately adjacent to the Prairie Island Indian Community homeland.

She served on the Board of Visitors for the Emergency Management Institute National Emergency Training Center. Trained over 300 students in EMI's tribal curriculum in the courses of emergency management framework for tribal governments, emergency operations for tribal officials, and mitigation for tribal officials.

Ms. Westra has a Bachelor's in environmental science from Plymouth State University, and she was Peace Corps volunteer in Guatemala from 1984 to 1987. Welcome.

PRAIRIE ISLAND INDIAN COMMUNITY

MS. WESTRA: Good evening, everyone. It's kind of interesting to be here for a night meeting. Thank you for the introduction, and thank you for the opportunity to be here tonight to talk to you about

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

the Prairie Island Indian Community, and some of the issues that we deal with.

I've been working for the Prairie Island Indian Community for just about 25 years, and for just about 25 years, I've been working with the Nuclear Regulatory Commission, both at the headquarters level, and at the regional level.

We were a cooperating agency for two license proceedings, one to re-license the Prairie Island Nuclear Generating Plant, and the other two re-license the independent spent fuel storage installation.

Over the last 25 years, I think we've developed a pretty strong working relationship with the NRC, based on our mutual respect for one another, and a shared goal of protecting the people and the environment.

So as you can see, Prairie Island Reservation is located on the ancestral homeland of the Prairie Island Mdewakaton Dakota on Prairie Island, which is formed at the confluence of the Mississippi River and the Vermillion River in Southeastern Minnesota, about 35 miles southeast of the Twin Cities.

The Mdewakaton, or Those Who Were Born of the Waters, have lived on Prairie Island for countless

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

generations. Tribe's current land holdings are about 3,000 acres, which they acquired through their own purchase -- oh. Oh, I'm sorry.

(Off microphone comments)

MS. WESTRA: Yes. I know, they're pretty rowdy out there.

(Off microphone comments)

MS. WESTRA: Anyways, so they, through outright purchases of land, and then land that was set aside by the federal government in the late 1800s. Because of gaming, they were, the Tribe has been able to buy back some of their own lands over the last couple of decades.

So as you can see in this picture, the Prairie Island Nuclear Generating Plant is right next door to the Tribe's homeland, right next to its housing, right next to its government center, its primary business, the Treasure Island Resort and Casino, its church, et cetera. There's no other community in the United States as close to a power plant, or I should say, the power plant is as close to the Tribe as the Prairie Island Indian Community. It is literally right across the street.

So here is a bird's eye view. You can see, how do you do the pointer? Anybody know? You can,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



you can see the Treasure Island Resort and Casino is right in the background. There are the, there are the cooling towers in the foreground, so it's pretty darn close, and as such, it's probably the number one issue that the Tribal Council thinks about, worries about, and spends a lot of resources on.

The ISFSI is about 600 yards from its nearest neighbor. Right now, the Xcel Energy is licensed to store 48 dry casks on the ISFSI. They, they're going through a process right now to amend their license to expand the footprint, to add another pad to the south, so that's where we're kind of working on that.

And as we all know, there's no date for the removal of any of this material, and so that's something that we spend a lot of time on also, is kind of following what's happening at other plants, making sure that everything, we're up to date as much as we can on what's happening out there with the, for instance, the interim storage licenses, et cetera.

So I want to talk a little bit about tribes in the United States, because once the material starts moving, which we hope it will, a lot more tribes are going to be impacted. Right now, there's maybe a handful, or a dozen tribes that are within, maybe more,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

but not all that many that are within the 10 or 50-mile EPZs. But once fuel starts moving, we're going to see more tribes kind of getting involved and coming into the fold, and being a little concerned about transportation.

So for your information, the Prairie Island Indian Community is a federally-recognized Indian tribe, 1 of 566 federally-recognized tribes in the United States. There are 11 tribes in Minnesota, and 33, 36, excuse me, in Region III.

Each tribe should be considered its own unique government, with its own governmental structure, leadership style, land base, criteria for membership.

The tribe itself will set its own membership criteria, who is a member, who's not, its own language, culture, traditions. So there's no one size fits all approach when it comes to interacting with tribes and understanding Indian tribes.

So I mentioned, that we've been working with the Nuclear Regulatory Commission for a long time, and really appreciate the agency's leadership in developing its Indian policy, or tribal policy statement the last couple years, and they also have a tribal protocol manual, and that's really important when we're talking about spent fuel transportation.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

So the basis for the policy statement, or some of the fundamentals of, sorry, I lost my train of thought. The fundamentals of interacting with tribal governments, that the agency understands that it has a trust responsibility, or a trust relationship to the Indian tribes. What that means is the United States government has a legally enforceable fiduciary obligation to protect tribal sovereignty, self-determination, tribal lands, assets and resources, and treating other federally-recognized and reserved rights.

This is especially important when we consider the consequences of potential radiological impacts. We expect a government-to-government relationship with the tribes. We may call working with states and tribes and the public, bringing it in under the larger umbrella of stakeholders, but it should be recognized that tribes are governments, and we expect to work with the NRC on a government-to-government basis.

And so another thing we'd like to see more of is more outreach to tribes, especially as the private initiatives start gearing up potentially for shipping. You know, if we're looking at transporting fuel in three and a half years, the tribes are going to need

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

a lot of lead time, because there's some tribes that aren't even aware that they're potentially impacted for shipments.

I just want to mention also, just on the topic of the tabletop, we were, and I know that it's going to be touched on more tomorrow morning, but we were fortunate enough to be part of the spent fuel tabletop exercise in May, and you know, as I mentioned, that the plant and the ISFSI are right next door. There's rail lines going through the reservation, so we know we're going to see some impacts from shipments.

We know their shipments will come through the reservation.

And so we're part of the planning committee, and we're very fortunate to be part of something at the beginning rather than at the end, and that we were also participants and observers, and that was very, very helpful, because we had Tribal Council members to be part of that exercise as observers, because as many of you may be aware, the NRC changed its rules a couple of years ago that would allow Indian tribes, federally-recognized Indian tribes, to receive the advanced notification of spent fuel shipments, if they opt in.

So it was very eye-opening for the Tribe,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

the Tribal Council to see, hey, wait a minute, we need to be part of this. We need to know when shipments occur, and we need to understand what our obligations are.

But with, regarding tribes and transportation, the biggest thing that I can say right now is, with respect to transportation is, I understand that the NRC will look at a prospective route and identify the tribes along the way.

And so that's how they're going to implement their Indian policies, by identifying the tribes that are potentially impacted by shipments, and work with them to come in for advanced notification through consultation, but also, it's important to recognize that the tribes have other interests beyond the boundaries of their reservation. They may have rights on seeded territories, hunting, fishing, gathering rights, that need to be brought into the equation, and then, looking at culture risk in the analyses, and trying to understand, how does tribes' culture and tradition weigh in?

And the final thing is, I would encourage the NRC licensees to, if you know you have tribes in your 10 or 50-mile emergency planning zone, to get to know them and work with them, and try to work out any

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

issues in advance of shipments, or advance of any licensing actions.

And that may be it. If you guys want to ask any questions, or we wait until the end of the panel, I could answer questions now, or wait to the end of the panel.

MS. ROQUE-CRUZ: Yes. So we'll wait until the end of --

MS. WESTRA: Okay.

MS. ROQUE-CRUZ: -- all the presentations. Thank you --

MS. WESTRA: All right.

MS. ROQUE-CRUZ: -- so much. And for those of you presenting next, we are competing against my people right here in the next room, so if you want to hold the mic with you, we have another one, you can do that. Speak closer to the mic, whatever it takes.

Let's make it work. If people in the back want to move forward, be transformative, change seats, that will be great. But please, let's just work for, to make it happen. So --

MS. DIAZ-SANABRIA: Sure. I have one question for you, Heather. How do you say --

(Foreign language spoken)

MS. DIAZ-SANABRIA: And that's thank you.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Thank you very much. That was very a interesting presentation. So our next presenter, Carlyn Greene, has been in the nuclear industry for almost 40 years with a Bachelor of arts in English and communication from a small private university in Middle Georgia. She embarked on what turned out to be a short stint as a public school English teacher in 1979, before beginning her long life, sorry, lifelong career in the nuclear industry.

Her first job in the industry was as a researcher of uranium and enrichment markets for what is now as NAC International, where she also collected data and supervised the fuel track database.

At NAC, she also assisted with the uranium price information system, the uranium supply analysis system, and the worldwide uranium oxide producer profiles.

In 1999, Ms. Greene went to Washington Nuclear Corporation, where she supported consulting studies related to spent fuel storage and decommissioning. These reports were her introduction to the back end of the nuclear fuel cycle, which, in her opinion, is the most interesting.

She soon became the associate editor of two back end publications, SpentFUEL and StoreFUEL and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Decommissioning Report. In May of 2008, UxC hired Ms. Greene to complete the company's expertise in the entire fuel cycle, then promptly purchase the SpentFUEL and StoreFUEL, and named her managing editor.

In the last 10 years, the StoreFUEL has grown from a four-page monthly newsletter to a 120-page monthly report that is widely viewed. And as the go-to reference for dry storage in the United States.

At UxC, Ms. Greene also contributes back end updates to the quarterly policy watch service, and to the back end chapter of the biannual nuclear industry value chain report. She has recently been promoted to her current role as a senior vice president of SpentFUEL. Welcome, Carlyn.

#### NRC'S ENGAGEMENT AND OUTREACH EFFORTS FROM

#### A MEDIA PERSPECTIVE

MS. GREENE: I think I have a pretty loud voice. Can you all hear me over all those HR wild people over there?

Okay. So I was asked to present on NRC's public engagement and outreach efforts from a media perspective, which I will touch on that. I'm going to divert a little bit as well, and I titled my presentation, A Single Raindrop: How Public Perception Can Effect the Nuclear Industry, and I thank

#### **NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



you for inviting me, and for the, to the NRC for hosting this conference again.

Many of you know what a single raindrop has to do with public perception in the nuclear industry, but I'm going to explain it at the end, so that's my teaser. Just push enter here? Right? Okay.

I just want to briefly introduce UxC. We've been providing nuclear fuel cycle information and data services for 25 years. We have a staff of about 15 people, and we cover the entire fuel cycle, from uranium mining to the back end, which is my area of specialty. And I had originally, and I had to have my slides in like last week, and as the week went on, I kept thinking of extra things I wanted to say that I put in my talk, but I don't have a slide for. Excuse me. So don't think that I forgot to advance a slide if one stays up there, what looks like to be too long.

But first of all, I was asked to give a media perspective, but I'm not a journalist, and I'm not an engineer, or a scientist, or a physicist, but I am a member of the public who's been, made a career out of following the nuclear industry for almost 20 years.

I'm often mistaken for a journalist though,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

because I manage, as my bio said, manage and write a subscription-based weekly summary of weekly developments in the back end of the nuclear fuel cycle.

It's called SpentFUEL. We haven't changed over to used fuel yet. We're still calling it spent fuel, as does the NRC.

I have a few copies with me, if anybody wants one. I also manage and write a monthly report about dry storage in the U.S., and this is called the StoreFUEL and Decommissioning Report, so basically, I cover the back industry, back end of our industry for clients, who don't have time to keep up with all that goes on in this area.

And I say all this because managing these two products obviously requires me to engage with the NRC and the industry on a frequent basis. My work depends on easy access to meetings, presentations, and cooperation by the NRC, and my industry contacts, who I appreciate very, very much.

So I can keep our clients informed about what's going on in global developments, national policy, legislation, and the industry activities, and they can keep doing what they do to ensure we have safe long-term storage of spent fuel.

So first, I will address the NRC's public

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

outreach and engagement efforts, from my perspective.

As I see it, the NRC goes to great lengths to engage with members of the public in an objective way. The staff is always very helpful and responsive to questions. Most meetings are open to the public, and all you have to do to participate in one is to make a call or send an email.

Although it would be helpful to have the bridge line and pass code information on the public meeting notice, requiring us to call in for that information does provide that project manager with a somewhat accurate account of how many people are expected to call in for that meeting, and I've missed that meeting, caught off notice many times, and still been accommodated.

And almost without fail, the project manager sends me the slides that will be used in the meeting prior to the start of the meeting. This has been a significant improvement over the last few years, when slides were not always available to people who called in, and made it very hard to follow along.

According to the NRC's Information Digest, which was just published earlier this month, the agency has conducted about 1,000 public meetings just in the last year to support transparency with agency

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

stakeholders. That's a pretty good effort, I think, to engage the public.

It's a website that's mostly kept up to date, not all of it, a Twitter feed, and a Facebook page. Its online database, ADAMS, well, sometimes is frustrating, posts hundreds of documents each week. I still haven't figured out why some documents are posted immediately, and others don't show up for months or years, but I just don't know why that happens.

But anyway, the nationwide meetings the NRC is holding to seek public input about best practices on community advisory boards in areas where a nuclear power plant is being decommissioned is just one example of good public outreach tool.

The agency employees participate in industry events, and host two annual conferences, including this one.

One area of improvement that I think could be worked on is the meeting archive section of the website. This is one of those that's outdated a little bit. As you can see here, it could be enhanced a little bit to include presentations and meetings from more public meetings.

You can see this, I just did this last week, and the upcoming opportunities for public involvement

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

was a meeting last September, and public, the most recent public archive information was two years ago.

So if somebody misses a public meeting that's important to her or him, it can be very difficult to find the information after the fact. You could check ADAMS, but as already noted, sometimes that's frustrating, because if you don't have the right search criteria, you might get zero results, or you might get hundreds.

But overall, my experience is that the industry, including the NRC, accepts comments and complaints with great restraint and respect to the commenter, for the most part. I think we've seen that today, for example.

And this isn't always easy. As an example, a few years ago, my colleague went to a Department of Energy public meeting in Aiken, South Carolina. The purpose of that meeting was to get the facts out to the public, and take comments about the possible return of about a, 1 million graphite spheres that contained 900 kilograms of U.S.-origin high enriched uranium, or HEU. This HEU is being stored in Germany, because it was used in a research reactor over there, but could be sent back to the U.S. for storage at the Savannah River site.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

The return of this U.S.-origin material would support non-proliferation goals, and in respond to a point made by the Department of Energy, that accepting this spent fuel would also provide jobs, and a significant economic benefit to the area, one member of the public scoffed at that argument and said, you could get jobs selling crack cocaine, before accusing the nuclear industry of caring only about money, but the DOE respectively, respectfully accepted her comments.

And I believe the NRC and industry are committed to present the information based in science and facts to the public, and we've heard that today as well. I've listened in to public meetings, and when it came time for questions from the public, on more than one occasion, I've heard an NRC staffer provide an answer that was long, overly complicated, and filled with technical jargon, rather than providing a quick simple, yet still accurate, answer.

It's mere baffle-gab to the person asking the question, who will get frustrated and ask a followup question, but by then, that person's time is up, and the response often is, we'll get back to that if we have time, and sometimes there's not enough time. So my suggestion would be to try to keep answers from

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

members of the public short and brief.

On the other hand, some public meetings have gotten out of control by activists who seek to hijack the meeting, which is being held for information purposes, to advance a personal agenda of theirs. And I think NRC facilitators should be more assertive in these cases, and not allow that to happen.

But overall, I think the industry, the NRC, the Department of Energy do care about public input, which is why they have improved their efforts to listen, respond to, and incorporate public comments, even if those arguments supports selling crack cocaine.

As Leslie Knope would say, one of my favorite characters, what I hear when I'm being yelled at is people caring loudly at me.

So now I'm going to hijack the rest of my time to emphasize the importance of journalistic integrity, from this non-journalist. No fake news. Different kinds of fake news, including using selective facts to skew public perception, or mischaracterizing events or action to rouse fear and perpetual myths to advance a particular agenda, and create a shock value.

And I have a couple of examples, but one fake news issue I'd love to dispel is that nuclear waste is a problem that hasn't been solved. Some call it

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

the Achilles heel of nuclear power. It is a true statement that there is no permanent disposal facility for spent fuel, but the reality is that's a political problem, and not a technical one. It is still a problem though.

Until a disposal facility is operational, however, the NRC has found that spent fuel can be stored forever, if necessary, with proper aging management techniques in place, and repackaging if, when needed.

This is not the desired solution, but it is a solution.

Collectively, nuclear power plants discharge about 11,300 tons of spent fuel each year, and through the end of 2018, globally, about 422,000 tons of spent fuel have been discharged. Most of that is in storage, although some has been reprocessed. In the U.S. alone, utilities are safely storing over 133,000 spent fuel assemblies in dry casks in more than 3,100 dry casks of various designs.

And every nuclear site in the U.S., except for Three Mile Island 1, Shearon Harris, and Wolf Creek already use dry storage, and TMI-1 in Wolf Creek will begin using it in the next few years.

So since the spent fuel is being safely stored, there's no urgency on the part of Congress or the federal government to fund a repository. The

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



Energy Water and Appropriation Bill for fiscal year 2020 just, it just passed the Senate Appropriation Committee last week, once again, omitted any funding for a repository program. But this is their responsibility, to fund work on a repository, or we will never have one.

It's not the NRC's responsibility, and it's not the Department of Energy's responsibility, and it's not industry's responsibility, although they are, although they are often criticized for our lack of a repository. It's Congress who continues to kick the can down the road, so to speak, and therefore leaving the burden of the best and most universally accepted means of disposal, which is a deep geological repository, to future generations.

But I maintain that one reason there is no urgency is because industry has done such a good job in solving this, quote, "problem", through the use of dry cask storage technology.

So rather than this being the big problem that has to be solved, in reality, the waste really is one of the best parts about nuclear power. Now, I didn't think of that idea. I stole it from Michael Shellenberger, who many of you have heard, and he's saying, really, because utilities safely contain,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

store, and pay for storing their waste, unlike any form of electricity, this is really one of the best parts about it. In contrast, millions of lives are cut short each year because of air pollution, resulting from burning fossil fuels.

But this is not the perception. For decades, opponents of nuclear power managed to propagate a perception and a fear that the waste from nuclear power plants is dangerous, which it is, if not properly managed, could be stolen by terrorists to be used to make bombs, or could explode during transportation.

Another one of my pet peeves is the word dump in articles about a highly-engineered system of multiple barriers that would safely contain spent fuel and radioactive waste for up to a million years. Perception is everything, and dump brings to mind a garbage dump, a landfill, or a junkyard.

Phrases like mobile Chernobyl and Fukushima freeway, in regards to spent fuel transportation have no basis in fact, but these terms are used to shape public perception that transporting spent fuel is a disaster waiting to happen, when nothing could be further from the truth.

Spent fuel transportation packages are

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

highly regulated, and the packages must successfully survive a sequence of rigorous tests before they are certified for use to transport spent fuel.

So this leaves me to explain what a raindrop has to do with public perception. The Department of Energy and industry has been work, have been working together on a research project designed to either confirm or refute analyses that show that high burn-up spent fuel can be safely stored for long periods of time, then transported with negligible impact to spent fuel assemblies being transported.

The official name for this test is the multi-modal transportation test, or the MMTT. That isn't something the average member of the public might remember, but the good communications people at Sandia came up with calling it the transportation, this test, the transportation triathlon, because spent fuel was transported over 14,500 miles by boat, rail, and truck within Spain, to Belgium, then to Baltimore, then to Colorado.

We've seen presentations on about this, earlier conferences, and it's very impressive. The triathlon suggests strength, endurance, and durability, and this test showed that the shock and vibration loads on fuel rods are approximately zero.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Test results showed that the peak strain energy from the vibration of the cladding during all that transportation is comparable to the kinetic energy of a single raindrop hitting a full-length fuel rod.

My personal favorite comparison is that the strain energy is, impact, is comparable to an angry wasp hitting the cladding.

Now, I hope I don't get any questions about peak strain energy, because I'm not a scientist, as I said. But in layman terms, the analysis of this test result show that spent fuel would have to be transported at least 10 billion, with a B, trips of 2,000 miles each before the cladding protecting the spent fuel rods would weaken and show damage.

I think a reasonable person would agree that that's pretty darn impressive, and I thank you to Nick Klymyshyn of Pacific Northwest National Lab, who came up with the very easy-to-understand raindrop and angry wasp analogies, for people like me.

And my last point is a recent example of fake news, by skewing information, is a press release put out recently by public watchdogs who want Southern California Edison to halt further transfers of spent fuel into dry storage at San Onofre from the relatively safe wet storage, which is stored in the pools at Unit

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

2 and 3.

Of course, the spent fuel is safe in the pools, but for years, public advocacy groups have pushed the notion that spent fuel is safer in passive dry casks than it is in the spent fuel pool.

Now, to advance its own agenda of stopping the transfers of spent fuel into dry storage so decommissioning of the plant can continue, and the site restored to beneficial use, this group is asking for a court order to keep spent fuel in the pool.

The motion submitted to the court actually said that spent fuel would be placed into untested canisters, which is not true, and dropped into holes dug in the beach at SONGS, which the NRC's concurrence.

The perception of dropping spent fuels into holes dug into the beach is clearly a misrepresentation of the facts designed to insight fear among members of the public, and it's simply irresponsible.

With no basis in fact, this press release said it really isn't a question of if, but rather when we're going to be dealing with a nuclear accident.

So to sum up, for the most part, I give the NRC an A- for its public outreach efforts, just update other parts of the website, and for public perception, it's really hard to compete with

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

sensational claims like dropping spent fuel into holes in the beach when presenting science-based information, like we've heard here today.

But public perception is very important, and I urge each of us to keep promoting the best parts of nuclear power, including the waste that is safely contained in canisters. Thank you.

MS. DIAZ-SANABRIA: So I have to say that we are doing the best we can. We're trying to be better, like you. Observations, me, in the NRC, we also have agents trying to get some information, so that's right on, right on top of, we're trying to figure out how to do that better.

Our next presenter, Neil Sheehan, he's a public affairs officer, spokesman for the NRC. He's based in the agency's Region I office, which is in King of Prussia, where we are located today, and oversees nuclear power plants in northeastern of the United States, as well as research reactors and the use of nuclear materials in certain states.

He has been with the NRC, and specifically in Region I, for more than two decades. Neil works closely with the agency's technical staff to communicate to reporters, and members of the public about the NRC's regulatory activities.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Prior to joining the NRC, he worked as a newspaper reporter, an editor at daily newspapers in Pennsylvania and New Jersey, in roles that included general assignment reporter, assistant county editor, Sunday editor, and assistant managing editor.

His most recent employer before coming to the NRC was the Asbury Park Press, the third largest daily newspaper in New Jersey, and Bruce Springsteen's hometown newspaper.

Neil won multiple awards for reporting, editing, and headline writing during his time working in journalism. Neil holds a Bachelor's degree in journalism from Temple University in Philadelphia, and a Master's degree in strategic communications from, if I said it in Spanish, it will be --

(Foreign language spoken)

MS. DIAZ-SANABRIA: -- but I think some of you know it as Villanova University in Villanova, Pennsylvania.

He is a father of three, and has served as a soccer and little league coach, and as a community volunteer. In 2007, he was awarded a meritorious service award for his work as a regional public affairs officer for the NRC. Welcome, Neil.

WAYS TO IMPROVE PUBLIC OUTREACH

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

MR. SHEEHAN: Well, thank you for being here. I'm going to try to turn up the volume a little bit, even though it seems as though the HR people have toned down for the moment. Maybe they're eating hors d'oeuvres or something, at the moment.

So thanks, again, for being here. You know, we were very happy to hear that they were going to be holding this in King of Prussia, which is just down the road from our office.

You know, Ray had mentioned earlier, some of the foods you think about, when you, when you think about Philadelphia. I just wanted to add a few things.

There's Taylor pork roll, soft pretzels, of course, hoagies, Goldenberg's peanut chews, and scrapple, and if you Google scrapple, you will probably not want to eat it. So just, word of caution there.

So we're going to work on trying to get our grade from A- up to A, if we can, but we recognize it's always a work in progress, and there are ways we can improve our outreach.

So I'd like to focus on the various ways in which the NRC seeks to engage the public when it comes to our many activities. Some of the activities, or some of the methods are decidedly traditional, such as issuing meeting notices, inspection reports, and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



press releases, but we also try to conduct public outreach in ways that are in sync with the times, including the use of webinars, social media, and making public meetings available via webstreaming, which is what we're doing today. We're Skyping this, and also using a phone bridge.

(Off microphone comments)

MR. SHEEHAN: Is it just the middle button?  
I'm sorry. Got it. Okay.

So before I elaborate on some of these outreach methods, I'd like to briefly discuss the role of the NRC's Office of Public Affairs. Our primary role is to respond to inquiries from the media, and from members of the public, and to do so with information that is clear, accurate, and delivered in a timely manner.

We frequently deal with details that are highly technical in nature, and therefore, NRC public affairs staff must work closely with our subject matter experts to develop responses that an average member of the public will be able to digest.

And I can tell you, we've, we're one of the reasons with the, most decommissioning plants right now, you probably know TMI-1 is closing down in the very near future, but aside from decommissioning, we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

field a tremendous number of questions about spent fuel, and spent fuel storage, and our staff in the division of spent fuel management are among the most helpful in the agency, in my view.

So in communicating with the public, this means avoiding, or at least greatly minimizing the use of acronyms. A good example would be ISFSI, which, as most of you know, stands for independent spent fuel storage installation, and doing our best to avoid nuclear jargon, and to put safety risk in perspective.

The NRC's Office of Public Affairs not only has direct engagement with the media and the public, it also provides support to other offices, when it comes to their interactions.

We will help prepare staffers for interviews with the media, sometimes accompany them for these, and offer feedback on ways to do it better the next time around.

We do the same for high public, high-profile public meetings, and as an example of this, of helping the staff, earlier this year, we had the 40th anniversary of the TMI-2 accident, and our historian, yes, we do have a historian, he went for interviews in Central Pennsylvania and elsewhere. I accompanied him, and made sure that he was very

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

successful in conducting interviews.

So crisis communications, they are also part of our responsibilities. Along these lines, during Hurricane Dorian, we remained in close touch with potentially effected NRC license holders, both nuclear power plants and nuclear materials users, to ensure they were taking appropriate steps to prepare for the storm. And this included license holders in Puerto Rico, which, as you all know, was battered a few years ago by, not one, but two hurricanes.

We also responded to, we communicated to the public via Facebook and Twitter on the status of these preparations. We also responded to media questions, primarily from our Region II office in Atlanta.

Another key part of our crisis communication activities involves preparing for an accident at a nuclear power plant. As part of those activities, we take part in graded emergency exercises at these plants, working closely with federal, state, and county partner agencies, writing mock press releases, and participating in mock press briefings.

So here is a macro view of the ways in which the Office of Public Affairs engages with external and internal stakeholders. This, by no means, represents

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

a static flow of information. We have utilized two-way communication channels that allow for a steady exchange of information between the public and the NRC.

As an example, in August, we initiated, and Bruce Watson discussed this briefly this morning, we initiated a series of 11 public meetings around the country to solicit public input on best practice for decommissioning community advisory boards.

Now, I just attended two of those last week, one in Vermont, one in Massachusetts, and I can tell you, we got a tremendous amount of feedback from those.

But before those meetings began, we also held a nationwide webinar that drew out 400 registrants, and made information on the topic available, no matter where someone might live, and allowing them a chance to weigh in, regardless of whether they could attend one of the meetings.

I should hasten to point out, point out that the Office of Public Affairs executes just one part of our outreach efforts. We also have an Office of Congressional Affairs, state liaison officers, agreement state officers, and an Office of International Programs. These offices, and others, play an important role in ensuring our many stakeholders are aware of our many activities.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

I borrowed this slide from a presentation one of my OPA colleagues gave earlier this year at our annual regulatory information conference, and this is designed to give a sense that we are fairly active on these two social media platforms, Twitter and Facebook, and while the numbers are not Katy Perry-esque, or eye popping, we're still reaching more people than ever before, and the audiences for this information will continue to grow. At least, that's our goal. And we also continue to evaluate other social media platforms that might make sense.

So now, I'd like to briefly discuss some of our, some approaches for communication that help foster greater participation. Obviously, when it comes to nuclear power and materials, there are topics that do not lend themselves to simple explanation. But the basic theory still applies. It's very easy to swap members of the public with complex details, and we are better served by trying not to get mired down in minutia, when we can help that.

Plain language, again, plays an important part in that, as does putting risk in perspective. It's one thing to discuss, in general terms, the safety track record of dry cask storage. It's another to provide facts and figures on the number of casks in

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

use, and the absence of any serious problems involving their use.

I think we heard earlier today that there are some 3,000 loaded casks. I know they've been in use, dating back, I remember Calvert Cliffs, I think, was the late '80s, so they've been around for a long time, and there is tremendous amount of institutional knowledge about spent fuel storage that's already been built up.

I'd like to talk a little bit about the power of visuals, making use of visuals helps us to convey complex information. I don't know how many of you are familiar with this graphic, but we produced this after 9/11, and hence, the inclusion of the World Trade Center. The goal, at the time, was to underscore what a difficult target dry cask would be, relative to the massive structures like the World Trade Center and the Pentagon.

Now, we try to convey to reporters that it would be very difficult to, particularly where some of these dry cask storage facilities are located in nuclear power plants, to hit that target, and keep up, keep a large plane stable, and achieve that.

Speaking of visuals, here is a slide that is a bit eye-opening to those not familiar with spent

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

nuclear fuel, and that includes most reporters that we interact with. This chart vividly illustrates the amount of heat generated by spent nuclear fuel, and how it drops off fairly quickly after it has been removed from the reactor.

As the chart indicates, the fuel cools down dramatically after about five years. And we would note that this would also explain why some dry casks are now being certified to hold spent fuel after it has, after it has cooled for just a few years in the spent fuel pool, depending on the design.

When we show this to reporters, many of them have just no idea that spent fuel could cool down that quickly. Their image of spent fuel is that it remains, and this is, again, based on what they hear in the media and elsewhere, that it remains very radioactively hot. So talking about temperature, that's, you can see the dramatic drop off.

Here's another graphic that gets heavy use, at least by me. There's been tremendous consolidation and turnover in the media in recent years, and a significant number of reporters that deal with have never covered nuclear previously, or if they have, they do it sporadically.

One of the largest newspaper chains in the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

country, Gannett, just recently merged with another large chain called GateHouse, and that means there's going to be more layoffs, more consolidation. Traditional media continues to go down in numbers, and what we're left with is bloggers, people who are out there doing a lot of, sharing information that may or may not be accurate. So the challenges have never been greater when it comes to communication.

So in any case, I offer this as a simplified explanation of how a nuclear power plant works. In this case, a pressurized water reactor, and I'll ask a reporter to click on this, on the graphic, and follow along, as I try to explain the basics of the technology, and generally, we're pretty successful, at least conveying the basics.

I know this is non-nuclear related, but I think it still highlights my point. This is a shot of Hurricane Dorian, taken from the International Space Station. If you were interested in the intensity of a hurricane, this view of the tightly formed eye of the storm is a good way to show that. And again, this is the power of visuals, and ways in which we can make them work for us.

Another topic I'd like to talk a little bit about is the power of narrative. As long as human

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



beings have had the power of speech, they have been speaking in narratives. You talk to your neighbor, you talk to your children, you talk to your relatives.

You may try to explain things in story form, and that's just the way we communicate.

So as an indication of how important narrative is, a Pulitzer Prize is awarded each year for a distinguished example of explanatory reporting that illuminates a significant and complex subject, demonstrating mastery of the subject, lucid writing, and clear presentation.

Along these lines, when we are discussing with a reporter why we consider dry cask storage to be safe, we can tell the story of how we got here, including such details as how long the technology has been in use, its safety track record, and other key details.

But see, we also point out that it should be done from a position of not trying to educate the public, or talk down to the public, while at the same time, trying to simplify things to the greatest extent possible, and also trying to legitimize fears.

We recognize there are people out there that are just never going to be comfortable with the technology, and we have to appreciate that.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

I'd like to talk about frames of reference.

We try to be careful when using terms with which the public is not familiar. If we say that the Average American is exposed to about 620 millirems or millirem of radiation each year, we need to be ready to, A, explain what a millirem is, and B, put that into context.

And one way we do that is by discussing how that compares with exposure to such things as a chest x-ray, which would be about 8 millirems, or a cross-country flight, about 5 millirems.

And I would note that our brochure on the transportation of spent nuclear fuel notes that doses from routine transport would be less than 0.001 the amount of radiation that people receive from background radiation sources each year. But we do not, at least in the brochure, discuss what background radiation entails, and that's, this can very easily cause confusion on the part of the public.

You know, most of you have probably heard this, but one analogy that gets used a lot when we talk about the amount of spent nuclear fuel in the U.S., we use the football field analogy, that you could put it on a football field, and stack it up to a certain, people, that helps people to really, to it in perspective.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

In Canada, they use the hockey rink analogy, because that works for them, so whatever you need to do to get the point across, that's what you do.

On the last point, the public gets bombarded with studies, but it's important that, to point out, that just because research shows a correlation does not necessarily add up to causation.

If a study finds that the traffic accidents increase when there are more red cars on the road, treat it with skepticism.

And then, lastly, there's our community, our contact information, including mine at the end. If there's any way that I can ever help you with any information, either about activities in Region I, or the NRC in general, please feel free to reach out to me. That's it.

MS. DIAZ-SANABRIA: So when I first came to the NRC almost 20 years ago, I was working in the license renewal for reactors, as a project manager, and we had to go to environmental scoping meetings, and some of the plants that we attended were in Region I, and I remember Neil Sheehan from that time, so he probably don't remember me, but I remember him very well, and I appreciate all of his work.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

And the Office of Public Affairs and the agency is a very good resource for us to explain to the -- and communicate to the public. So thanks for the work that you have done.

Our last, our last speaker, Jose Cuadrado, is a project manager in the Spent Fuel Licensing Branch Division of Spent Fuel Management in the NMSS.

In this role, Mr. Cuadrado is responsible for licensing reviews of applications of the spent fuel storage licensees, licenses, dry cask storage certificates, and for the approval of certificates for radioactive material transportation packages.

Prior to his current role, Mr. Cuadrado worked in NRC's Division of High-Level Waste Repository Safety, where he performed reviews of the license application for the proposed geologic repository at Yucca Mountain, and led the implementation of a stakeholder outreach and communications associated with the repository program.

Mr. Cuadrado has worked at the NRC for over 17 years. Mr. Cuadrado holds a Bachelor's degree in chemical engineering, woo-hoo, that's my degree too, from the University of Puerto Rico, that's my alma mater too, and an MBA from the University of Maryland College Park. Welcome.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

## OPENNESS, CLARITY, and INDEPENDENCE

MR. CUADRADO: All right. Thank you very much for that warm introduction. I am very conscious of the fact that I'm the only thing standing between you and dinner, and perhaps happy hour as well, so I'll try to be as brief as possible in that.

So the topic of my talk is openness, clarity, and independence, and I want to provide you a brief summary of the stakeholder engagement efforts that we have led over the past, roughly, two, perhaps over three years, and one of the most visible licensing actions that the NRC has before them, which is the licensing of the two applications for consolidated interim storage facilities.

So I am the project manager for the safety review of one of them, for the Holtec application, and I'm assisted in this effort by other colleagues in the NRC, and I want to recognize them. John Nguyen, Jim Park and Jill Caverly, who are also my colleagues on this.

So briefly, I will go into a very brief background. I'm always under the assumption that, because this is an industry conference, you are very familiar with the specifics about what the review entails, and where we are on that.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

So next, I'll talk briefly about some of the guiding principles that the NRC staff uses in approaching stakeholder engagement and communications for the review, which is very substantial, and then go over the events over the past two years, of what we've done on the subject, and what are the kinds of themes and topics that we have heard in all of these activities.

All right. So the first application that we received was from, obviously, ISP, Interim Storage Partners, which was received in April of 2016. As many of you are aware, it was temporarily suspended, and then the review was restarted in August of 2018.

The current licensee, ISP, it's a joint venture between Orano USA and WCS, Waste Control Specialists. And the proposed facility they proposed to build is located within land at the WCS low-level waste disposal facility in Andrews County, Texas.

So the application that we have before us is for a four-year license to store spent nuclear fuel and greater-than-Class C waste, approximately 5,000 metric tons, and with plans to expand that facility in subsequent phases, up to 40,000. And the facility uses several types of above-ground spent fuel storage design systems.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

The other application, the one that I'm most familiar with, is the application from Holtec, for the HI-STORE consolidated interim storage facility in Lea County, New Mexico.

The application was received in 2017. Holtec International is the applicant, and as I said, the site is in Lea County, New Mexico, right next to the border, between Eddy and Lea County.

They also submitted an application for the 40-year license to, and Phase I, which is to store up to 8,680, 8,600, roughly, metric tons of, which is the equivalent of 500 canisters of spent nuclear fuel, and would also, with a proposal to further, through subsequent license amendment, to expand the footprint of the facility and the stored capacity up to 100,000 metric tons.

And the proposed facility proposes to use a single dry cask storage system, which is a HI-STORM UMAX, which is currently in use in two other sites in the United States.

So as our previous three speakers, you know, so eloquently put, discussed, the task of interacting with, and engaging with members of the public and stakeholders, requires a different set of tools, a different set of practices in order for us

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

to do it effectively.

So I always say that, you know, as project managers, who are not just responsible for conducting the application that we have before us, but we also have to wear many hats, and you know, deal with, you know, the necessarily interesting aspects of these projects, which are very visible, in terms of the time in which they are being proposed, which they seek to address this need in the absence of national progress on the repository program, so these two companies jump in.

So you know, sometimes regulators can be in the middle of all this, and we seek to be conduits for providing clear and transpiring information. So we go by these three principles that we highlight here, openness, clarity, and independence, and I consider them very important, because, that the agency takes the view and the concerns of the public seriously.

And we seek to embody those in our principles of good regulation. Openness is one of our guiding principles. As we have said, we want to provide access to all of the information that is possible, with certain exceptions, obviously, for proprietary information, or security information.

Communication and interacting with the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



public, using the same tools that Neil so eloquently discussed, but we also want to make, that message to be clear, and to emphasize our independent role in regulating these facilities.

We are not an advocate for nuclear power.

We don't site these facilities. Our sole job is to make and render a decision on whether or not a license can be granted for storage of this.

And it may seem very obvious, but in all of the interactions, we find that identifying the role that we do, as a regulator, is the first thing that surprises people. They somehow, by our name, think that we are somehow related in advocacy or promotion, and no, we are an independent regulator, and getting that message across is, you know, key for getting, building trust among stakeholders in our safety and security mission.

So the first main, and the most substantial area in which we seek to engage the public is through our environmental review process. The NRC's NEPA process, in accordance with our regulations, they establish that we have to prepare a full-blown environmental impact statement for both of these.

So the NEPA process in that, it's established in our regulations and our practices,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

provides substantial opportunities for members of the public, stakeholders, and other groups to engage and provide input to the NRC, and what should be considered in its evaluation of the environmental impacts of the facility.

One example in which we have, you know, sought to advance, you know, the, and expand the engagement is like the NRC, for one of the applications, received a request from the state government to be a cooperating agency in that, which we recently approved.

And that is something that is very strange, because our NEPA regulations establish this cooperating agency concept, was never intended for it to be, you know, for use for state agencies. Really, the guidelines establish, we ask other federal agencies that have jurisdiction over this, but in this concept, once we identify certain areas in which they have a state agency, a state permitting agency had some relevant knowledge about the areas of review that we are, and we approved that request.

So that's one area in which, you know, we can, we sought to advance, you know, that opportunity for state participation in the environmental review process.

Obviously, the amount of engagement and

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

participation that we have undergone in the scoping process has been extremely substantial. For the ISP application, we heard, we held four scoping meetings, two of them in, one in Texas, one in Nevada, and two of them in NRC headquarters. Very substantial participation in many of them.

We normally had between about 150 up to 300 attendees. We may have, you know, 50, 70 speakers come to, you know, the podium to speak, provide their comments, very long nights, obviously, during those, and we seek to accommodate, you know, the members of the public's schedules.

You know, we usually hold these meetings in the evenings, so for the most part, we were there for, you know, up to midnight, you know, just listening to people offer their thoughts and their views about the project, and what we should consider in our review.

So, and for the Holtec, even more substantial, we held six scoping meetings, five of them in New Mexico, including places as remote as Albuquerque and Gallup, New Mexico, which is a fair distance away.

But once again, the NRC demonstrated, you know, its commitment to seeking the inputs of the stakeholders, regardless of where they are.

And obviously, the amount of comments that

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

we attracted in these, that the NRC received in both of these applications was substantial. For ISP, we received approximately 30,000 public scoping comments.

Approximately 3,200 of them, unique comments, meaning, you know, one different from each other.

We get a lot of, you know, form comments, which makes it a little less complicated, but, yes, this is the kind of, you know, turnout that is substantial. I mean, not even reactor licensing tends to attract this number of engagement, which speaks to the visibility and the importance of, you know, these two licensing actions to citizens across the United States, not just in the communities where they are located. So for Holtec, we received approximately 6,600 comments, and I think about 3,900 of them unique.

So we use multiple communications channels, many of them traditional, and including, you know, those that favor, you know, technology as well.

We want to make sure that we provide avenues for every type of citizen, whether they're, you know, well-versed in technology, as well as those that, you know, are not, you know, as reliable users of technology.

These are very rural communities, and you know, sometimes their only opportunity to engage with us is to, you know, walk to the local library and get

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

internet access in those locations. So you know, that matters to us, and we will continue to seek, you know, to provide as many opportunities for them to participate.

The other area in which we also received substantial engagement is the safety review. The safety review does not have as many of the opportunities for public engagement as the ones that are predicated by the NEPA process, you know, in our rules and processes.

However, the NRC still received substantial participation in public meetings that we have on that. We strive to make all of the application documents available to members of the public through our website, and our ADAMS platform, and make all correspondence related to the review available too.

We have deployed the use of Listserv, so every time that we issue a piece of correspondence to any of the applications, we send notifications so that people are aware of that, instead of them having to, you know, go look for them in ADAMS, and other remote places in our very expansive public website.

And you know, every public meeting, so we provide opportunities for people to attend and make a phone call and ask questions of the NRC staff after

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

the business portion of those meetings.

In addition, you know, lots of interest as well in providing briefings to federal, state, local officials, government officials, as well as other, you know, stakeholder groups. Lots of time spent briefing members of, you know, the Congressional delegations for, you know, the State of New Mexico, for example.

We have done briefings to members of the New Mexico State Legislature, staff of the, our Congressional oversight committees. Lots of interest in that, which, you know, imposes additional requirements, additional efforts and staff to, you know, once again, wear that different hat, in which, you know, explain how we do our work.

But you know, we value these things. I mean, this helps us in the end avoid the confusion about, you know, who is taking care of, you know, these matters, and it's, and these, are these licensing actions, are they going to be protected from them?

The other part of our review process that also entails some, albeit different, but substantial amount of engagement is our adjudicatory hearing process. So the NRC's regulations require that the staff provide an opportunity for members of the public, or any stakeholder interest, as to request an

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

adjudicatory hearing on matters associated with the consolidated interim storage.

On both of the applications, we received petitions to participate in the hearing, and for the case of Holtec, we received five hearing petitions, containing approximately 45 different contentions there.

For the ISP hearing, we received hour hearings, containing approximately 40 contentions, which also is a substantial number. Not, you know, similar to those that we see in reactor licensing applications as well.

The other thing that also surprised us is substantial attendance of members of the public to the ASLB's pre-hearing conferences and oral arguments. I say surprising because the adjudicatory hearing process is, you know, a process designed for lawyers, by lawyers. They contain very detailed, very formal procedures for participation. They're not very different from the kinds of things that you see in a federal courtroom.

So to see, you know, traditional members of the public seeking to engage in this, in this very formal process tells you a lot about the amount of interest that they have in these matters associated

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

with consolidated storage.

So one of the, some of the themes, oh, sorry. Some of the themes that we have heard, there are many, but I think, you know, these five bullets that I have here summarize what, you know, we hear the most.

The first is really, and I was surprised by this, questions about, what are the NRC's role, who the NRC is, why are we organized the way we are, who makes decision at the NRC, and why is the NRC the sole regulator on this matter?

So a lot of questions is like, what kind of role does the state have in this? So we were surprised, because everyone things that we do great interesting things in design, engineering, and all of this stuff, but for most members of the public, really, it's all about getting to know you, who you are, why are you doing this job, who appointed you to this job, and it's very illuminating to, you know, we have the opportunity for, to educate members of the public on matters of which you have never had a relationship.

So you have the opportunity to start from scratch and build up from that, so that was very interesting. Questions about the regulatory framework for spent nuclear fuel transportation, including the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



different roles of federal, state, and local government.

My colleague, Chris, spoke about how the nature of spent fuel transportation in the United States is very spread out over multiple agencies, so that always creates, you know, substantial amount of questions about, okay, what part of the regulatory review process, of that oversight process do you have?

So lots of questions and concerns about, you know, spent nuclear fuel shipments, including the potential risk from, if there were to be any transportation accidents. We also heard a lot about concerns about the terms of CISF, or consolidated interim storage facility license.

When we always say, well, we can rent a license for 40 years, people start immediately saying, well, I thought this was interim, and to which we assert, yes, I mean, we understand that, but you know, our licenses are not just about 40 years, you do it.

We always have to emphasize our continued oversight role and inspection process for those actions. And one of the things that has, you know, been on the news a lot, and we've been receiving a lot of questions, is concern about, you know, the effects of having this facility in these locations on other

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

industrial or economic activities near the site.

One of the notable absences about, you know, this is, we rarely get any inquiries about our standards, you know, for radiation protection, for design criteria, for siting factors. No, it's really more about understanding, who are you, why should I trust you, and what are the kinds of things that you put in place to make sure that this is done safely?

So to conclude, the NRC values the views and the concerns of external stakeholders, in connection with the CISF review, and we go to great lengths to make sure that these concerns, to the way that our law and legislation, our rules allow us to consider them to highlight where those areas will be addressed, you know, where they can.

So we strive to continue this, and we will continue to engage and provide information to all members of the public on its review process and the decisions, as they go, as we go forward on this.

I think one of the main opportunities that we have to further inform the, and clarify NRC's role is on this transportation aspect.

I think there is consensus amongst all of the presenters here that, you know, we have an opportunity to, as if this licensing actions continue,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

if the NRC decides to grant a license, and if transportation is going to occur, that there's an opportunity there for all agencies and entities that have a role in this to inform the public about this, these roles.

And of course, you know, we always welcome the, your ideas and suggestions for improving the quality of the communications that we have with them, and we will continue to strive for, you know, more openness, more clarity, and to highlight our independent mission of safety and security.

So that concludes my presentation, and I look forward to your questions.

#### QUESTIONS AND ANSWERS

MS. ROQUE-CRUZ: Thank you very much to all the, I'm here. Just making sure you guys are all awake, so I changed, I changed sides. Right here. Right here. You guys with me? Okay.

Questions and answers for our last session of the day. Any questions here in the room? I see one question. I'm going to walk.

MR. McCULLUM: Rod McCullum, Nuclear Energy Institute. My question is for Neil, but I'm going to, I'll dare any of the other panelists to answer it. I was sitting on this side of the room, so sometimes

#### **NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

I was hearing speakers, sometimes I was hearing people have fun, and I want to give you a chance to have fun.

Neil, you really struck a chord with me, with one line you had in your presentation, which is, don't come at the public with this, I'm trying to educate them.

I had many painful experiences early in my career, where I would come at the public saying, I'm going to educate these people, and what I got in response was, he's attacking our values.

And then we had a, we had a non-communication, where my message was going this way, and their reaction was going that way, and they either collide horribly, or they don't even connect.

And you gave us a lot of hints as to how, you know, we can communicate and get on a values-based communication that goes two ways. And then, and then you talked about something that really raised my expectations, that there's a Pulitzer Prize for doing that. There's a Pulitzer Prize for taking a complicated subject and communicating it very clearly, and I thought the next thing you were going to do was kind of give me an example in our world, and maybe there isn't one.

So I'll ask you and your fellow panelists,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

I'm not asking you to write a Pulitzer Prize essay on the fly here, but give me a nugget. If I'm a journalist, and I want to win that Pulitzer Prize about spent fuel, where do I go? What's the, what's the theme? What's the, what's the essence of what I should be communicating to win that Pulitzer Prize?

MR. SHEEHAN: If I had the answer to that, I'd probably be working on it at this very moment. No, the reality is there are, there are just, you know, an incredible number of stories that are not being told, you know, when it comes to the nuclear fuel, and a lot of stories are not being told, period, in 2019.

But on the nuclear front, it's mostly being done by freelancers. Now, there was a very good story that appeared earlier this week, and it was not on any sort of mainstream publication, but it was another one of these stories about how do you communicate to the public about the long-term storage of spent nuclear fuel and the hazards associated with that?

So it's just, it's a very rich field for anybody to delve into. The challenge is finding people who can communicate it in very succinct terms, and that's not an easy thing to do.

So I think a lot of our staff are very good at doing that. I know that some of the staff Region

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

I, because we are so involved with the public in this part of the country, they're very practiced at it, and they've learned how to get better at it over time.

But we always try to approach it from a position of mutual respect. We don't go into meetings and think, we're going to sit here and tell you how this thing should proceed. And sometimes that means just listening to people, active listening.

So that's the way we, you know, we try to handle things.

MS. ROQUE-CRUZ: Okay. Any other questions here in the room? I think we are going through Skype. Right? Is that correct? Do we have any comments? Questions? Anything else? Yes?

MR. LI: Again, this is Zhian Li from NRC, and since I've just tried to get a question, move up and have questions to talk about your concern, and then new ideas or something.

I do have a question for Ms. Greene, and then, by the way, I know you, but you don't know me.

I'm, because I'm a subscriber to your UxC, and the SpentFUEL.

MS. GREENE: Oh. Oh, I appreciate that.

MR. LI: So I read them, and I, actually I find that they're very beneficial. There's a lot

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

of good information, and from time to time, you get to the public feedback, and your, you know, kind of ideas and their understanding. It's very beneficial.

So --

MS. GREENE: Thanks for that plug.

MR. LI: -- actually, question for you is, what do you think will be the solution for the spent fuel for the nuclear power plant that do not have the ISFSI yet?

So you, in your slides, there's few of them do not have any ISFSI, so what do you think?

MS. GREENE: Well, actually --

MR. LI: Is there a solution?

MS. GREENE: Well, there's only one plant that's not, won't have an ISFSI, and that would be Shearon Harris, because it has four spent fuel pools. Every other site in the U.S. has one now, or TMI-1 and --

MR. LI: I thought the one --

MS. GREENE: -- Wolf Creek will have one in the next --

MR. LI: Yes, one --

MS. GREENE: -- couple years.

MR. LI: Oh, okay.

MS. GREENE: They're, they both have

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

contracts with --

MR. LI: Okay.

MS. GREENE: -- vendors to build one. One's with NAC, and one's with TN. So --

MR. LI: So --

MS. GREENE: -- Wolf Creek, I mean Shearon Harris won't need one for a long time, because of their extra spent fuel pools.

MR. LI: Oh, I see. All right. Thank you.

MS. GREENE: You're welcome.

MS. ROQUE-CRUZ: Any other questions here in the room? Can I ask, I want to ask a question. Heather, your presentation, you talked about federally-recognized tribes, so that's not all of the tribes. And so how would that change the way they interact with the, with other agencies?

MS. WESTRA: Well, there's federally-recognized tribes, and there's state-recognized tribes. And so for a state-recognized tribe to become a federally-recognized tribe, they have to petition the Department of Interior, and there's some criteria that they have to meet in order to receive federal recognition.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701



And once they are federally-recognized, benefits become available. Funding, like grants that are available only to federally-recognized tribes. So they have to prove, like, that they've occupied the land, that they're culture is intact, their language is intact, and some other things.

So there's, you know, they're not, I think I cited, I don't remember exactly the number that I've cited for the number of tribes, but you know, every year, one or two are being added, because they go through that federal recognition process.

MS. ROQUE-CRUZ: Thank you. Any other questions? The Skype, one more time?

MR. REGAN: Chris Regan, NRC. First, I wanted to thank Ms. Westra and Ms. Greene very much for your willingness to participate in this panel, and to the NRC staff. It was a little bit last-minute, but I very much appreciate you guys stepping up and offering to present your perspectives.

I have a question for Heather. One of the things that I've been sensitized to is the value of personal relationships when dealing with the Indian tribes, building that level of trust in a one-on-one interaction, face-to-face dialogue with specific individuals helps build that level of credibility both

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

with us, and the relationship between us.

However, that takes time, and one of the things that I'm particularly sensitive to is, I've been made aware that, because that takes time, and at the NRC, we sometimes have turnover of management on a basis that's probably more frequent than would enable that time to build that level of trust creates some challenges for us in helping establish those good relationships with the Indian tribes.

So do you have any suggestions or any thoughts on, given the fact that every two or three years, there may be a new set of individuals who the tribes would be interacting with, how we could establish that level of trust, and build those relationships, given the fact that we, you will be interacting with different people, as we do affect some turnover?

MS. WESTRA: That's a good question. I'd like to also recognize that within the tribal government structure, you may have turnover also. You know, like, for instance, for the Prairie Island Indian Community, the elections are every two years. You could have a complete turnover.

In the last 20 years, it's been fairly constant, but you could have that same situation. But I would say that the most successful relationship we've

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

had, and constant relationship, is through the regional liaison, or state liaison officer.

So he's Allan Barker, if anybody is familiar with him. He's been a constant, and then also, to help us navigate through headquarters, which can be different. Different people, different, you know, because everyone's in their own little silo, doing what they need to do.

So he's helped us thread that somewhat. But I think, you know, just establishing a relationship with just maybe one, you know, a staff person with the tribe, is helpful. And we understand that. You know, people get promoted and, or they take other positions, and it happens. But you know, just keep working at it. But I think it's good to have the regions working, reaching out to the tribes, within their own regions first. And then, for a specific scope to the headquarters.

MS. ROQUE-CRUZ: Thank you. Any other questions?

MS. WILSON: My question is for Neil. When you were talking a little bit about the recent Twitter feed, Facebook, some of the stuff that the NRC is doing that I remember used to be blocked from everything that we had done, and when it comes to social

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

media, I think we all know that it does increase the amount of information that's available, so sort of educates people more, but in the same light, it also polarizes people more, because it increases the dissemination of misinformation.

So I was wondering if, in your experience, or in your opinion, when we are now being more engaging over social media, do you think that it, social media in general, is providing a positive avenue for disseminating correct positive information, that we want people to have, or do you think it's overall kind of a negative thing for public opinion, about the NRC and the nuclear industry in general? Thank you.

MR. SHEEHAN: This is just my personal opinion, but I think it's a net positive. There are certainly people who like to offer comments on a frequent basis, and criticize the agency, criticize our activities, but I think it's really been a very valuable method for us to get information out in a very timely manner.

Just, even on this conference, we were tweeting out and putting out Facebook posts, and I can just tell you, with some of the reporters I have interacted with just today, they were made aware of it via Twitter and Facebook.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

I, we had a, filled up the federal executive board. They have, they talk periodically about engaging with the media, and we had, last year, we had a panel discussion with some print reporters, TV reporters, radio reporters from the Philadelphia area, and almost to a person, they said, we start with Twitter.

We don't look at press releases. We don't look at emails you send us. We start with the Twitter feed, because they're just constantly on the go.

As I mentioned before, their staffing levels have been cut, almost at every media outlet there is these days. And so they don't have the luxury, the way they used to, to take a press release and sit there and sort through all of the information.

So they're grabbing information off of Twitter, deciding what they should focus their energies on, and that's just the world we live in, in, you know, 2019.

MS. ROQUE-CRUZ: Thank you. Any other questions? Okay. Seeing none, I really want to say thank you to the presenters. It was great to have different topics for the afternoon, so thank you so much. Round of applause, please.

I think this is the end of our first day. I want to, on behalf of the NRC staff, say thank you.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

It was, it was great. I think it was very interactive and informative. Please remember tomorrow at 9 a.m., we're going to be starting.

Before we go, I want to make sure that nothing on the phones or Skype? Okay. And any closing remarks that we may want to provide? We're ready to go?

MS. DIAZ-SANABRIA: We're ready to go.

MS. ROQUE-CRUZ: Thank you so much. Have a safe night. Have a wonderful night, and I'll see you tomorrow morning.

(Whereupon, the above-entitled matter went off the record at 7:34 p.m.)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701