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License Renewal EIS

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1	UNITED STATES OF AMERICA
2	NUCLEAR REGULATORY COMMISSION
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4	PUBLIC MEETING TO DISCUSS THE DRAFT SUPPLEMENTAL
5	ENVIRONMENT IMPACT STATEMENT FOR THE LICENSE RENEWAL
6	OF LIMERICK GENERATING STATION
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8	EVENING SESSION
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10	THURSDAY
11	MAY 23, 2013
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14	The Meeting convened in the Sunnybrook Ballroom,
15	50 Sunnybrook Road, Pottstown, Pennsylvania, at 7:00
16	p.m., Richard Barkley, Facilitator, presiding.
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19	<u>PRESENT</u>
20	RICHARD BARKLEY, Facilitator
21	LESLIE PERKINS, Environmental Project Manager
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7:04 p.m.

FACILITATOR BARKLEY: Thank you. My name is Richard Barkley. I'm the meeting facilitator for this evening. I was here this afternoon as well. We had a productive meeting, I thought, and we covered all the speakers that asked to sign up and I hope we'll repeat that this evening.

If you're interested in speaking this evening, please sign up at a yellow card at the back. I think I have 13 people signed up at this point which is actually just a couple less than this afternoon.

The purpose of this meeting again is to present the results of the review related to the environmental evaluation of the license renewal for Limerick Station. Again, we'll accept any comments you have. If you have some written remarks you may place them up here at the table. We will take that. There's also the opportunity to provide written comments submitted up until June 27th regarding this application.

Why don't we roll to the next page, please?

Again, as I mentioned I'll go over the ground rules for this meeting. If you do want to speak, please sign up on a speaker card. To be fair, I'd like to see you try to hold your remarks to five minutes. Most

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speakers went between three and seven minutes this afternoon, so if we can do that we'll be fine with covering everyone this evening.

I'll try to call the first three speakers at a time so you know you're prepared for the next speaker. That makes for a much smoother transition. And I would ask that you silence your cell phone if you have one on so we don't have disruptions during the meeting. You'll see me working with my cell phone. I use it as a timer during the meeting, but I won't be accepting calls.

go. We have two hand-held microphones, if you could hold the microphone fairly close to your mouth that would be great. The audience can hear you then as well as this meeting is being transcribed and so it makes it much easier for him to understand the transcription and accurately record that.

I would ask that you do not interrupt the speaker or speak when not at the microphone. The audience this afternoon did that without problem and I hope we repeat that this evening.

If you have any questions concerns regarding the conduct of the meeting, please come see me.

I know I've talked to two different people that have

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schedule constraints tonight, so I'll try to put them early in the order in which they're called.

So at this point, I'd like to thank you for your cooperation and have Leslie get started with the presentation.

MS. PERKINS: Thank you, Richard, and thank you all for taking the time to come to this meeting. My name is Leslie Perkins and I am the Project Manager for the Environmental Review of Limerick Generating Station.

I hope the information we provide at this presentation will help you to understand what we've done so far and the role you can play in helping us make sure that the Final Environmental Impact Statement is accurate and complete. I would like to emphasize that the Environmental Review is not yet complete.

Next slide.

I'd like to start off briefly by going over the agenda for today's presentation. I will discuss the NRC's regulatory role, the preliminary findings of our Environmental Review which addresses the impacts associated with extending the operating licenses of the Limerick Generating Station for an additional 20 years. I will present the current schedule for the remainder of the Environmental Review and how you can submit comments outside this meeting. And I will discuss how the waste

confidence rulemaking and EIS impact the Environmental Review for Limerick.

At the end of the presentation, there will be time for questions and answers on the Environmental Review process. And most importantly, time for you to present your comments on the Draft Supplemental Environmental Impact Statement.

Next slide.

NRC was established to regulate civilian use of nuclear materials including facilities producing electric power. NRC conducts license renewal reviews for plants whose owners who wish to operate beyond their initial license period. NRC license renewal reviews address safety issues related to managing the effects of aging and environmental issues related to an additional 20 years of operation. In all aspects of the NRC regulations, our mission is three-fold: to ensure adequate protection of public health and safety, to promote common defense and security, and to protect the environment.

Next slide.

We're here today to discuss the potential site-specific impact of license renewal for Limerick Generating Station. The Generic Environmental Impact Statement, also known as the GEIS, examines the possible

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environmental impacts that could occur as a result of renewing licenses of individual nuclear power plants under 10 CFR Part 54.

The GEIS, to the extent possible, establishes the bounds and significance of these potential impacts. The analyses in the GEIS encompass all operating light-water power reactors. For each type of environmental impact, the GEIS establishes generic findings covering as many plants as possible. For some environmental issues, the GEIS found that a generic evaluation was not sufficient and that plant-specific analysis was required.

The site-specific findings for Limerick are contained in the Draft Supplemental Environmental Impact Statement, also known as the Draft SEIS, which was published April 30th of this year. This document contains analyses of all applicable site-specific issues as well as a review of issues covered by the GEIS to determine whether the conclusions in the GEIS are valid for Limerick. In this process, the staff also reviews the environmental impacts of power generation alternatives to license renewal to determine whether the impacts expected for license renewal are unreasonable.

For each environmental issue identified an impact level is assigned. The NRC standards of

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significance for impact was established using the White House Council of Environmental Quality terminology for significance. The NRC established three levels of significance for potential impact: small, moderate, and large as defined on the slide.

This slide lists the site-specific issues NRC staff reviewed for the continued operation of Limerick during the proposed license renewal period. Overall, the direct and indirect impacts for license renewal on all these issues were found to be small which means that the effects are not detectable or are so minor that they neither destabilize nor noticeably alter any important attribute of the resource.

Next slide.

This slides provides a summary of our findings with respect to cumulative impact associated with Limerick. Cumulative impacts include the effects on the environment from other past, present, or reasonably foreseeable future human actions. These effects not only include the operation of Limerick, but also the impacts of activities unrelated to Limerick such as future urbanization, other energy-producing facilities in the area, and climate change. Past actions are those related to the resources at the time of the power plant licensing and construction. Present

actions are those related to the resources at the time of the current operation of the power plant. And future actions are considered to be those that are reasonably foreseeable through the end of the plant operation, including the period of extended operation.

Therefore, the analysis considers potential impacts of the end of the current license term as well as the 20-year renewal license term. While the level of impact due to direct and indirect impacts of Limerick on aquatic and terrestrial resources were small, the cumulative impacts, when combined with other resources, such as increased urbanization and climate change will be small to moderate for aquatic resources and moderate for terrestrial resources. Ιn considered, the staff preliminarily other areas concluded the cumulative impacts are small.

Next slide.

The National Environmental Policy Act, also known as NEPA, mandates that each Environmental Impact Statement consider alternatives to any proposed major federal action. A major step in determining whether license renewal is reasonable or not, is comparing the likely impact of continued operation of the nuclear power plant with the likely impact of alternative means of power generation. Alternatives must provide an option

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that allows for power generation capability beyond the term of the current nuclear plant operating license to meet future systems generation needs.

In the Draft Supplement, NRC staff initially considered 18 different alternatives. After this initial consideration, the staff then chose the most likely and analyzed these in depth.

Finally, NRC considered what would happen if no action is taken. And Limerick shuts down at the end of its current license without a specific replacement alternative. This alternative will not provide power generation capacity nor would it meet the needs currently met by Limerick.

The NRC's preliminary conclusion is that the environmental impact for license renewal for Limerick would be smaller than those feasible and commercially viable alternatives.

The no action alternative will have small environmental impact in most areas with the exception of the social economic impacts which would be small to moderate. Continued operation would have a small environmental impact in all areas. The staff concluded that continual operation of the existing Limerick is the environmentally preferred alternative.

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review of the Based on likely environmental impacts for license renewal, as well as potential environmental impacts on alternatives to license renewal, the NRC staff's preliminary recommendation in the Draft SEIS is that the adverse environmental impacts to license renewal for Limerick are not great enough to deny the option of license renewal for energy planning decision makers.

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For the term beyond the 20-year period of extended operations, the NRC addresses the management of spent nuclear fuel and the Waste Confidence Decision and Rule. Previous license renewal Supplemental EISs noted that the environmental impact of temporary storage of nuclear fuel for the period following the reactor operating license term were addressed by this rule. The Draft Supplemental EIS does not discuss potential environmental impact of storing spent fuel for an extended period after the plant shuts down. That issue will be addressed in the NRC's Waste Confidence Environmental Impact Statement and Rule. The Draft Rule and the EIS is expected to be issued in fall of 2013 and the public will have an opportunity to provide comments.

The Final Rule and EIS is expected to be issued in September of 2014.

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Waste

Additional information on the Confidence Rulemaking and EIS can be found at the NRC

public website at the link listed on the slide.

In August 2012, the Commission decided that the Agency would not issue licenses dependent upon the Waste Confidence Decision until the Waste Confidence Rule is completed. However, the Commission directed the staff to proceed with licensing reviews and proceedings. If the results of the Waste Confidence EIS and Rule identifies information that impacts the analysis in the final SEIS for Limerick, the NRC staff will perform any appropriate review for those issues and may supplement the Final SEIS before the NRC makes a final licensing decision as to whether or not to renew Limerick's If no changes are required, the NRC staff would base its decision on the Final Supplemental EIS for Limerick, the Waste Confidence EIS and Rule, as well as the Safety Evaluation Report.

Next slide.

T'd like reemphasize to that the Environmental Review is not yet complete. Your comments today and all the written comments we receive by the end of the comment period on June 27th will be considered by the NRC staff as we develop the Final SEIS which is currently planned to be issued in November 2013.

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comments that are within the scope of the Environmental Review and provide new and significant information can help change the staff's findings. The Final SEIS will contain the staff's final recommendation on the acceptability of license renewal based on work we've already done and any new and significant information we receive in the form of comments during the comment period.

Next slide.

As many of you know, I am the primary contact for the Environmental Review. Rick Plasse is the primary contact for the Safety Review. Copies of the Draft SEIS are available on CD as well as hard copies on the table in the back of the room. In addition, the Pottstown Regional Public Library and the Royersford Free Public Library have agreed to make hard copies available for review. You can also find electronic copies of Draft SEIS along with other information about the Limerick license renewal review online.

Next slide.

The NRC staff will address written comment in the same way we address spoken comments received today. You can submit written comments either online or via conventional mail.

To submit written comments online visit the

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website regulations.gov and search for the docket ID listed on the slide. If you have any written comments today, you may give them to any NRC staff. This concludes our presentation and I'll turn the meeting back over to Richard.

FACILITATOR BARKLEY: Okay, thank you, Leslie. Are there any questions regarding the presentation? If not, I'll move right into the comment period.

Again, typically, we call elected or appointed officials first. And Michael Moyer is the first one who signed up. Are there any other elected or appointed officials who would like to speak this evening as well? If not, Michael, you're first.

MR. MOYER: Thank you for the opportunity to make my comments and I promise that I will keep them brief.

The NRC is guilty of regulatory capture in my opinion. Regulatory capture occurs when a regulatory agency created to act in the public interests instead serves to advance and to promote the agenda of the very industry it is charged with regulating.

Let me give you a very specific example. On September 14, 2012, I wrote the NRC to request a delay of final public hearing on the Environmental Impact

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Statement of relicensing the Limerick Generating Station until the NRC's U.S. court-ordered spent fuel study was complete. I never received a response. Not a phone call. Not a letter. Not an email. No response.

Recently, I called Congressman Jim Gerlach's office and I also called Senator Bob Casey's office for help in getting a response to my letter. I'd like to publicly thank Greg Francis from the Congressman's office and Kurt Imhof from the Senator's office for personally contacting the NRC on my behalf. Even after those efforts, and now some eight months after I had written that letter, I still haven't heard back from the NRC. And I suspect I never will.

This helps to illustrate a real-life example of how regulatory capture works. In this case, the regulatory agency in question seems to be more concerned, in my opinion, with keeping Exelon's relicensing of the Limerick Generating Station on track than they are with responding to the concerns to protect the public interest.

How is it in the public interest, for example, to attempt to assess the environmental impact of relicensing Limerick Generating Station when we don't know the results of the spent fuel study? And we won't know the results until some time in 2014. How can the

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NRC properly assess the environmental impact of relicensing Limerick Generating Station until the earthquake mitigation plans have been completed? And we won't know the results until some time in 2017. Why does the NRC seem to be in such a mad rush to relicense a nuclear facility when its license doesn't even expire until 2024? Why? Why? Why?

The answer is simple: regulatory capture. The Nuclear Regulatory Commission or better yet, the Nuclear Rubberstamp Committee, which is precisely what it appears to be in my opinion, is far more concerned with being directed by Exelon and Exelon's schedule than it is with responding to the health and safety concerns of the public. That's why today I am formally calling for a congressional investigation of the NRC's practices based on regulatory capture, regulatory malpractice, and willful abandonment of its charge to act in the public interest.

Further, as an elected official representing over 6,000 residents across the Schuylkill River in East Coventry Township, I am formally calling for a final public hearing here in Pottstown before the NRC grants any license renewals to Exelon for its Limerick Generating Station. Thank you. Thank you for your time and consideration.

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(Applause.)

FACILITATOR BARKLEY: Okay, thank you, Mr. Moyer. Our next several speakers will be Mark Pavelich, followed by Dr. Ann Baly.

MR. PAVELICH: Good evening. My name is Mark Pavelich. I own a business called Organics and I operate it and live in Dowington. I'm extremely passionate about issues that relate to the environment as my company develops, manufactures and deploys materials in organic horticulture.

Thus, I'm in the forefront of environmental issues daily. And I do support the relicensing of Limerick Generating Station. Thank you.

(Applause.)

FACILITATOR BARKLEY: Okay, thank you, Mark. Dr. Baly.

DR. BALY: I'm Anita or Ann Baly. I'm mostly retired, former Lutheran pastor and professor of theology. I'd like to comment on one specific environmental issue and one more fundamental question. And first, I just want to publicly thank the Pottstown Mercury and Evan Grant, in particular, for the continued and on-going and careful reporting that has been done on this whole Limerick nuclear plant issue in our community. Otherwise, most of us would know very little about it.

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evacuation. Now I just learned tonight that evacuation, alas, falls into another unit of the NRC's portfolio. But since the professed number one mission of the NRC is to protect the public health and safety and because I don't know whether that other unit will ever invite public comment, I would like to speak briefly to evacuation tonight.

I am in my mid-60s. I am healthy, mobile, resourceful, informed, and well educated. I believe my chances of successfully evacuating in the event of a nuclear disaster are slim to none. I live a mile from the plant at the Sanatoga Ridge Retirement Community. I believe the chances of my neighbors evacuating successfully, most of my neighbors are in their 80s or 90s, I think their chances could be described as simply not having a prayer.

To pretend otherwise seems like a cruel hoax. Any previous hopes that people would be evacuating only in a ten-mile area, it seems to me, have been definitively answered and dashed by the actual human behavior we saw at Fukushima during their nuclear disaster. People evacuated within a 50-mile area and they had to.

When nuclear disaster strikes at Limerick,

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people will be evacuating all over the greater Philadelphia area and into New Jersey. Millions of people, all competing in a panic mode for the same roads that serve us so poorly around here during an ordinary rush hour. And it can only get worse because daily the population increases.

But environmental impacts, crucial as they are, are secondary questions. I really wish someone would address why this licensing procedure is happening so early. Unit 2's present license, as Mr. Moyer explained, isn't even up for 16 years. Only God knows what will happen tomorrow, let alone 16 years from now. We will be learning that only as we go along.

Think back just 12 years ago. Remember those days, the spring of 2001? I still enjoyed flying in airplanes. I had no sense that the United States in the contiguous 48 states could be attacked by anyone. Our economy was robust, employment was full, interest rates were high. I hadn't even heard of email. Our general feeling in America was that of happiness and safety. Well, all that has changed.

Much will happen in the next 12 years that no one can foresee. To proceeding with licensing now makes no sense. It almost seems as though the NRC is saying to us our mind is made up. Do not confuse us with

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any present or future facts, circumstances, insights, developments, or technologies.

Someone must be profiting by this reckless rush to relicense, but the public is being harmed by the haste. You, Nuclear Regulatory Commission, have the power to change this. Please, slow the process down. Thank you.

(Applause.)

FACILITATOR BARKLEY: Thank you, Ann. Our next speaker is Gail Brown, followed by Donna Cuthbert, and then Leanne Birkmire.

MS. BROWN: My name is Gail Brown. And my neighbor is the Limerick Generating Station. I live a short distance from Frick's Lock National Registered Historic District. About two thirds of this district is within the exclusionary boundary, right on the cusp of the Limerick Generating Station, therefore, uninhabited.

Greatly due to increasing vandalism and a fire at the Lock Tender's House in February 2008, the Frick's Lock stakeholders were formed to negotiate a satisfactory resolution towards the preservation of Frick's Lock. The stakeholders were represented by members from Exelon, the Schuylkill River Heritage Area, East Coventry Township, Chester County, Senator Breneman

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and Preservation Pennsylvania, and the Pennsylvania Historic and Museum Commission.

On February 14, 2011, Valentine's Day, an agreement between Exelon and East Coventry Township was accepted to rehabilitate Frick's Lock. Construction began and was completed the following year 2012. The first public tour of Frick's Lock Historic District is scheduled for June 8, 2013.

I believe this is the first time a major utility has rehabilitated a National Historic District in negotiated terms to allow a local historical commission limited access to conduct guided tours within the EAB. Not only did this project enrich the history and heritage of our community, but Frick's Lock also lies adjacent to the proposed Schuylkill River Trail and as a trail head will be a tourist destination and a boost to our local economy.

As a member of the Frick's Lock stakeholders, I am still amazed at what can be accomplished when a large corporation, Exelon, is willing to come to the table and work with individuals and a community to contribute to and enhance our resources. Thank you, Exelon, and I look forward to a continued participation within the Frick's Lock stakeholders.

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(Applause.)

FACILITATOR BARKLEY: Here you go, Donna.

MS. CUTHBERT: For an agency mandated to protect public health from Limerick nuclear plant operations, NRC's mindset and insistence on repeatedly denying reality is intolerable. NRC's denial protects Exelon's profits and NRC jobs, but they allow more people to become tragic victims of Limerick nuclear plant's radiation and other toxic releases.

Sadly, NRC is infested with conflicts of interest which are leading to lies that will further jeopardize everyone in our region.

NRC obviously ignored documented evidence of environmental and health harm, compiled and submitted to NRC for this EIS in 2011 by ACE. This evidence should have been alarming even to NRC.

NRC did no monitoring or testing. In reality, NRC has no idea how much radiation is released from Limerick. Based on flawed and outdated theoretical models for radiation exposure which only measure external doses and ignore internal doses, NRC shamefully, shamefully continues to absurdly claim Limerick radiation releases are safe. Permissible does not mean safe.

In 2005, the National Academy of Sciences,

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COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. WASHINGTON, D.C. 20005-3701 BEIR VII Report said there is no safe level. Dr. John Gofman, once head of AEC's labs raised dire warnings about permitted releases from nuclear plants. He published research warning about permitted releases from nuclear plants. He estimated 32,000 Americans would die each year from fatal cancers induced by allowable radiation releases. Gofman said the entire nuclear power program is based on a fraud that there is a permissible dose that wouldn't hurt anyone. And frankly, we're tired of hearing NRC people say that.

We provided NRC with evidence showing communities around Limerick already exacted a high public health toll since Limerick started operating. A cancer crisis has been documented by Pennsylvania cancer registry statistics and CDC data. Cancer rates skyrocketed far above the national average after 1985 when Limerick started releasing radiation into our air, water, soil, and people. Links to Limerick are clear. Limerick routinely releases radiation. Radiation causes cancer. We have a cancer crisis and one of the largest relays for life anywhere.

The upward trend in childhood cancer rates provides the most tragic link. By the late 1980s, childhood cancer rates climbed to 30 percent higher than the national average; higher by 60 percent in the early

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1990s and a shock 92.5 percent higher than the national average in the late 1990s. Infant and neonatal mortality rates are far higher than the state average and even higher than Philadelphia and Redding. Studies provide a link.

When nuclear plants open, infant mortality rates go up. When they close, rates go down. Autism rose a whopping 310 percent from 1990 to 2000. Learning disabilities increased by 94 percent, a rate double the state increase. Strontium-90 radiation is an undeniable link. Limerick releases strontium-90. It's in our air, water, and soil. Strontium-90 is also documented in the babies' teeth of our children at some of the highest levels in the nation. NRC still shamefully tries to blame decades old bomb testing far from our region. It's ridiculous.

Many cancers rose dramatically by the late 1990s. Examples include thyroid cancer, 128 percent increase; multiple myeloma, 91 percent increase; breast cancer, 61 percent increase, higher than the national average in every age group and it is 51 percent higher in women 30 to 44. There's a 48 percent increase in leukemia, almost double the state average.

Limerick nuclear plant is clearly a major factor in the tragic and costly health crisis around it

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with children the most profoundly impacted victims. Exposure to Limerick's radiation is an unavoidable and intolerable injustice. We can't see it, smell, taste, or feel it, but it's everywhere. We can't avoid it.

As long as Limerick nuclear plant continues to operate, radiation and other dangerous toxics will be released into our air and water and more people will suffer needlessly. We have lost patience with NRC's lies, coverups and negligence. NRC should close Limerick now to protect public health. It's time to stop unnecessary exposures and associated suffering and healthcare costs due to Limerick's operations.

(Applause.)

FACILITATOR BARKLEY: Thank you, Donna. Leanne. And Tina Daly is next.

MS. BIRKMIRE: Good evening. My name is Leanne Birkmire. I live in Jeffersonville, Pennsylvania. I'm a chemical engineer by trade and I've worked for Exelon for nine years. The past four have been at Limerick Generating Station. My group is responsible for monitoring of the air, water, land, waste, chemicals, tanks, and wildlife in accordance with state, local, and federal regulation.

I'm also the lead of the Environmental Stewardship Committee at Limerick Generating Station, a

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group of approximately 30 volunteer employees who participate in conservation efforts both at the station and in their communities.

I believe that Limerick is safe both in its design and in that the employees come to work every day recognizing that nuclear technology is special and unique. I believe that Limerick is operated in a manner that protects the environment and that conservative decisionmaking is used at the station to ensure that we protect the plant, we protect the workers, we protect the public, and we protect the environment for future generations.

I support the approval of the Draft Environmental Impact Statement for renewal of Limerick's operating license. Thank you for your time.

(Applause.)

FACILITATOR BARKLEY: Tina's next. Followed by Charlie Shank.

MS. DALY: My name is Tina Daly. I live within ten miles of Limerick. I have been following the process since the days of the Limerick Ecology Action. I was one of two citizens who commented on the latest air permit, so I won't get into that tonight, and one of the very few who commented on the NPDES permit, also I won't get into that.

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I also spent years worrying over the DRBC water augmentation request that dedicates the Schuylkill River to the production of nuclear power. I am opposed to the relicensing and I believe this plant should be safely decommissioned as soon as possible and with full on-the-record public participation at every step.

The DSEIS is completely self serving and shows how far NRC is in bed with Exelon. Nuclear regulatory means regulate. NRC is paid for by all of us and should be fair and impartial. It is strange that the NRC wrote the DEIS. The NRC set up the interior rules, including small, moderate, and large -- what a brilliant idea -- and whether something is new or old. And the NRC will decide whether or not to relicense. What a farce. This is not the way to make decisions.

The public notice was not informative in the least. Obviously, NRC is not interested in public input. The notice appeared on 5/9/13 and today is two weeks later. I, for one, cannot adequately review this document in that time frame. However, I do thank the NRC for making the paper copies available on request.

This is a meeting that's being transcribed.

Are we on the record as we would be at a hearing? Is NRC on the record? I agree with Mr. Moyer, the supervisor, that there should be an on the record public hearing.

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NEPA Section 1502.2(f) says agencies shall not commit resources prejudging selections of alternatives before making a final decision.

On page 123 of this document it says "the USNRC preliminary recommendation is that the adverse environmental impacts of license renewal for LGS are not great enough to deny the option of license renewal for energy planning decision makers." I think the NRC is not in compliance with NEPA and I think this needs to be looked into. I think the law is being broken.

Throughout the supplemental, we are told that there is no new information to change the past EIS and decisions. The fact is there are lots of new pieces of information. One of the new pieces Donna mentioned is the National Academy's National Research Council BEIR VII No. 2 Report which says there's no safe level of exposure to radiation. This is new since LGS started up. It is not considered here. I couldn't find anything about it in the document that I was given. It must be considered because of all of the reasons Donna said.

Most of the maps are no good. Quickly, show me the star on page 2-3. Show me the township names. What is the location of the business shown on page 217, etcetera. Some of the maps have circles around the plant

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at varying distances, so of course, you can't compare them.

I looked at all the references they used. The references include work by private firms for corporations as far as I can see. Who paid for these studies? Where did the money come from? It seems that NRC did not use work done by such organizations as the Union of Concerned Scientists, Beyond Nuclear, or ACE. This is an example of how NRC is in bed with one side.

New also is the above-ground storage of spent nuclear fuel. That certainly wasn't here before and that certainly presents a huge danger to us all. And I might add the public hearing on that was held in the context of whether they could put cement pads in a certain zoning district.

New rules about spent fuel may be released in 2014, so this relicensing is obviously premature.

The whole document is full of things like the term "permanent disposal." There is no such thing as permanent disposal. Also, there's a reference to corporate wildlife habitat certification. It's just one of the references on one of the lines. This certainly throws all those references about wildlife into question to say the least.

Historic resources, Frick's Lock aside,

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don't include some of the places that I know are on the Historic District and it also said that there were no federal lands owned in the 50-mile radius except Valley Forge. Maybe the Independence National Park isn't nationally owned. I don't know. Hopewell Furnace, the Heinz National Wildlife Refuge, I question that.

Also federal money is being spent on the Highlands. NRC is a lackey to the nuclear industry and NRC should not consider this premature license application and its circular arguments. NRC should be reorganized into a non-biased, regulatory commission prior to any further decision making. I plan to extend these remarks before the deadline is over.

(Applause.)

FACILITATOR BARKLEY: Thank you, Tina. Charlie. Then Paul Gunter is up.

MR. SHANK: Before I start, I just want to thank again Mr. Moyer for coming over and making his comments. He seems to be the only one who is aware of the potential dangers over there in East Coventry accepting that land. Recently, the Limerick nuclear plant refueled Reactor 1. It also uprated the plant to produce more energy. To do this they have mixed in a more powerful fuel, GNF2, and changed the shape of the fuel bundles. These changes make more power, more

radiation, more heat, and more stress on the aging equipment. Exelon is now close to the maximum output for the Limerick reactors. To add more power, expensive changes would be necessary to handle even greater stresses and greater radiation.

Every day, 14.2 million gallons of very hot water leave the cooling towers loaded with dissolved solids and radiation. This hot brew goes down Pipe 001 to the diffuser and into the Schuylkill River. It enters the river at 110 degrees Fahrenheit a much higher temperature than the Schuylkill River limit of 87 degrees Fahrenheit. Over the course next 30 years, that will amount to about 150 billion gallons of polluted water going into the river.

When water is hotter than 95 degrees Fahrenheit it fosters the growth of thermophilic microbial organisms. These organisms include legionella, yes, legionella, and salmonella among others. These pathogens thrive in warm water. They can also cause fatal infections and pneumonia in compromised individuals and the elderly. This hot water needs to be cooled down more than it can be at the present time.

Exelon asked the Pennsylvania Department of Environmental Protection to provide comments about these pathogenic organisms in the river. Exelon wanted the PA

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DEP to confirm Exelon's conclusions that no harm would come from the pathogens during an extended period of operation with these higher temperatures. The Pennsylvania DEP, to its credit, said it had no data on these organisms in the river to support Exelon's claim. The PA DEP was unable to reach any conclusions as to the possible health effects, thus, not supporting Exelon's contentions.

I think it would be better to have more independent study done now than solve any unknowns before racing to relicense Limerick. We have 11 years remaining in the present license period to properly work out these problems. We should not just skip over them or wait until a serious accident happens. The job of the NRC is to promote public safety, not the nuclear industry. The way the NRC has been acting lately, makes the IRS look good.

I support ACE's recommendations about the Senate investigation of the NRC and about having a public hearing here for relicensing back in Pottstown.

Lastly, I want to mention how Exelon and the agencies like the NRC are destroying public trust. This isn't something that just happened over night. It's been coming on for many, many years. For one thing, they eliminate. They eliminate proper temperature controls

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and heat standards for the Schuylkill. They allow dirty Wadesville water into the Schuylkill. They grant radiation exemptions. They grant total dissolved solid exemptions. They ignore Clean Air and Clear Water Act. They delay timely notification of the public about accidents and spills. They alter the river flow rate measurements for convenience. They allow 20 time increase in pipe leakage rates for Limerick so it can pass They stall fuel pool liner repairs. They stall protective vent installation. They fail to require filters for the vents. They misled Limerick construction costs. Deceived. The NRC inspectors had been instructed not to write things down on paper so they won't show up in FOIA requests.

Secrets. They withhold Exelon information from the public concerning foreign ownership or investors. My favorite, the evacuation plan. The NRC requires this plant for relicensing, they pay for it, Exelon does, and then everybody ignores it.

Among some of us, we think of this plant as a dinosaur. To me, the industry is dying, but they just don't want to admit it. We call it nukesaurus. Our country is smarter than this. Because of corporate greed and control, they have taken over this business and this relicensing. We should start over with a fresh

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sheet of paper. The rest of the world is moving ahead while we tread water. We can do better than this. We can certainly do better than what we're doing now. Thank you very much.

(Applause.)

FACILITATOR BARKLEY: Paul, after you will be Zach Chizar.

MR. GUNTER: Thank you. My name is Paul Gunter. I'm Director of the Reactor Oversight Project at Beyond Nuclear in Takoma Park, Maryland. And I drove up here tonight basically with the message that the relicensing of the Limerick plant is more than just a local issue.

The concerns here are far reaching and I think that the story that I wanted to bring to start off with was the concern is how can you do an accurate Environmental Impact Statement if in the midst of trying to figure out just how far the reach of the Fukushima Daiichi nuclear accident really is and in terms of its impact on land contamination, air, water, and marine environment contamination by radioactivity from this accident?

And so it's our recommendation, our request, that this relicensing be suspended until there's a more reliable reviewable Environmental Impact

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Statement that tells us what's the results from Fukushima
Daiichi and the nuclear catastrophe that happened at the
GE boiling water reactors there similar to those here.

At Fukushima Daiichi, it was General Electric Mark I boiling water reactor for Units 1 through 5 and Unit 6 is a Mark II, like Fukushima Daiichi. And I'm going to recall a story. On March 11, 2011, I was called into CNN in Washington, D.C. to comment on the accident that was emerging at the Fukushima Daiichi facility and I was asked by correspondent Jean Mazur to just briefly say what is your concern as simply as you can put it. And what I said and what was on The Situation Room report for that evening was our concern is that this reactor could literally blow its roof off.

And that remark was contrasted by Tony Pietrangelo with the Nuclear Energy Institute that said there's no evidence that there's any threat to containment. What proved out the next day was the explosions that then repeated themselves. And it wasn't a prediction on our part. It was never a prediction, but it was the fact that we've known, I've known for decades, that these GE boiling water reactors are unreliable in terms of their primary component for protecting the public in the event of a severe accident, that being the containment structure.

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The Atomic Energy Commission which is the predecessor of the Nuclear Regulatory Commission, its chief safety officer in 1972 said that plant should never be built. And that the reliance on other GE Mark I reactors should be suspended. That was ignored. And in fact, the concerns have only grown since then to the point that on the eve of the explosions at Fukushima this was what carried our concern.

But first and foremost, this relicensing should not be going forward because the Nuclear Regulatory Commission's own requirements for the licensing agreement for Limerick have been violated or are in violation. And to extend the operating license is to extend that violation.

And I want to read into the record NRC general design criteria which states "the principle design criteria established the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, components, important to safety. That is, structures, systems and components that provide reasonable assurance that the facility can be operated without undue risk to public health and safety."

It then goes on to identify general design criterion 16 which is the containment design and states,

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"requires reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier

against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded as long as postulated accident conditions require. Essentially leak-tight barrier against uncontrolled release of radioactivity."

This is a violation of the licensing agreement as currently operated by Exelon at Limerick facility. But it doesn't stop there. The NRC staff by their own document, SECY-2012-0157, has stated that given a severe accident involving core damage, there's only roughly a 50-50 chance of recovering from the nuclear accident within the pressure vessel and no significant radioactive release from containment. That's a 50-50 chance that it will occur with a significant release from the containment to the environment.

The document also reads "if the vessel fails, there is only a 25 percent chance that the operators might cool the molten core inside the containment with no significant release to the environment." In other words, by NRC staff's own

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judgment, that's a 75 percent chance of a core melt exiting containment. That said, NRC states that there is an 11.8 percent chance that a severe core damage sequence would lead to early overpressure containment failure where there is a 90 percent chance that the molten core bypasses the suppression pool, being a primary component of the containment for the Mark II because of drain line failure or a rupture in the drywell, another component.

Essentially, this paints a picture for you for us of a very large radioactive release to the environment because of this unreliable containment.

Again, which is in violation of Exelon's licensing agreement.

The licensing renewal process -- basically, the NRC has never rejected a license renewal application. There have been 75 plants that have received their license extension and the NRC has never really in our experience and we've participated in a number of these interventions, the NRC is always an adversary to questions, concerns, contentions, that would raise the safety bar or question the extension of these operating licenses. So the NRC in these proceedings stands for Nuclear Regulatory Conveyor that is intent upon speeding up the process, granting early application, and it's our

contention that if you're wondering why Exelon is making its application so early, it's one of our contentions that the industry and the agency have colluded to avoid answering questions about the lesser environmental impact from the on-coming renewable energy renaissance, revolution that is happening, that is attracting investment and is growing by leaps and bounds. The NRC doesn't want to make that kind of information in its Environmental Impact Statement. That's why -- that's precisely why Exelon or any of these other utilities can make application as early as 20 years. That's the rule. I mean what kind of Environmental Impact Statement is worth anything if it's fixed 20 years before

the federal action is even required? This gives you the basic plan and blueprint for a bias that this Agency and this industry have concocted to expedite these license extensions prior to what they view as a lot of unwelcome and unnecessary questions about renewable wind, solar, energy efficiency, and whole host of 21st century energy policy chances that are going to happen, that are happening. Thank you.

(Applause.)

FACILITATOR BARKLEY: Thank you, Paul. Ιs it Chizar?

MR. CHIZAR: Chizar.

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FACILITATOR BARKLEY: I butchered it really bad. Dr. Cuthbert, you'll be up next.

MR. CHIZAR: Hi. My name is Zach Chizar and I'm an administrator with the Pennsylvania Energy Alliance. Day in and day out, we educate Pennsylvanians about nuclear power as a clean, safe, and reliable source of energy for the future. One of the most rewarding parts of working with this coalition is getting out into the community to meet different people, so many of whom already support nuclear energy.

In early April, we were in this very room for Representative Mark Painter's Live Well Expo. Many attendees came by our table to learn about us and some even shared stories about Limerick Generating Station dating back to its origination when it was first opened.

Over the last six months, we've had two groups of fourth grade students from Brooke Elementary and Limerick Elementary nearby visit Limerick Generating Station. Nuclear energy is part of their current curriculum in school and the visit served as a perfect wrap up for the unit. The students were actively engaged and many asked great questions about the facility some of which were even interested in how to work there when they were older.

In addition, we were also present at the

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community information night that was held last week at Limerick Generating Station. Community events such as this continue to show that results from our March 2012 poll still hold true that the public opinion of nuclear power is still very strong and positive near our State's five power plants. need for energy continually increases, nuclear power proves to be the most reliable and environmentally friendly solution. Thank you. (Applause.) FACILITATOR BARKLEY: Thank you, Zach. After Dr. Cuthbert, will be Betty Shank and then finally Lorraine. DR. CUTHBERT: Thank you,

Rich. Throughout this Environmental Impact Statement that has been drafted and presented by the NRC, the Agency has persistently and continuously understated, minimized, or denied the documented evidence of harms from Limerick nuclear plant.

Your pro-nuclear industry bias is well established, but it's also shameful at the same time. reviewed the document in its entirety and I will refer to just a few items that illustrate the points that we make on behalf of protecting the public.

In Section 9.3.1 of your EIS you admit that

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"during nuclear power plant operations, workers and members of the public would face unavoidable exposure to radiation and hazardous toxic chemicals." Despite this fact, NRC has actually suggested in this repugnant EIS that all of the environmental harms from Limerick are small. I'm going to repeat, all of the environmental harms from Limerick are small and have no measurable impacts.

Nuclear power plants are the only facilities on the planet with the capability of rendering entire regions uninhabitable for decades, centuries, in the event of a radiation disaster. to claim that all power generating facilities generate similar wastes is another lie. You stated "the generation of spent fuel and waste material including low-level radioactive waste, hazardous waste, nonhazardous waste would also be generated non-nuclear power generating facilities." Really?

NRC staff also concluded that cumulative impacts from Limerick's license renewal would be small in all areas except aquatic ecology and terrestrial ecology. That conclusion is patently absurd. You arrogantly and irresponsibly dismiss the harms, risks, and threats from Limerick as callously as you consider the members of our community to be merely acceptable

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collateral damage. You should be ashamed.

Even more astonishing than that, NRC staff concluded that continued operation of Limerick nuclear plant would have less environmental impacts than either solar or wind alternatives on air quality, groundwater, surface water, human health and aesthetics. Such conclusions are beyond untenable and unscientific. They bring new meaning to the term hubris. These ludicrous conclusions by NRC are laughable. And yet, they may not be sufficient to reject the Limerick EIS as having zero credibility.

"after decommissioning these facilities, and restoring the area, the land could be available for other productive uses." This is a delusional conclusion, worthy of no less than four Pinocchios. This is the same land that Exelon claimed was worth zero when it fought to avoid paying its fair share of property taxes for years.

Consider this alternative. The only acceptable use of this site after decommissioning to members of our community would be as a regional NRC office. NRC has utilized their checklist mentality, referred to earlier, through other testimonies.

As an approach throughout this EIS,

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COURT REPORTERS AND TRANSCRIBERS 1323 RHODE ISLAND AVE., N.W. WASHINGTON, D.C. 20005-3701 Limerick's evacuation plan is a perfect example of the checklist mentality. Exelon was required to have an update to its plan on file with NRC no later than 2011. The document was finally submitted to NRC in December 2012. Analysis of that document, Exelon's evacuation time estimate, ETE, for Limerick nuclear plant's plume exposure pathway reveals that that update is based on unrealistic, unworkable suppositions, assumptions, inconsistencies, inaccuracies which we have enumerated, and illogical conclusions. NRC refused repeated requests to meet to review our detailed analysis of Exelon's fatally-flawed report.

Even more shocking than that, was the admission by NRC officials that they had no need or intention to review, evaluate, or approve Exelon's ETE. The report was turned in, checked, good enough.

Well, not for us.

should be outraged. Exelon's ETE should be summarily rejected by elected officials and the NRC for that matter. This EIS for Limerick nuclear plant is nothing less than an insult to our community. Unsupported conclusions appear to fit your predetermined decision to use your infamous rubber stamp and approve an EIS that will facilitate relicensing of Limerick.

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The narrative simply does not comport with reality or documented facts in many areas. This biased EIS is invalid, detached from reality, and unacceptable. You can do much better. NRC has now lost all credibility in the eyes of this community. It is painfully evident that NRC is becoming a cowardly agency, unwilling to implement or enforce minimal protection of the public, despite readily available scientific evidence and well-documented harms.

Sadly, you choose to be a subservient lapdog to the nuclear industry and their lobbyists rather than a vigilant watchdog protecting public interest. Only willful blindness could explain this EIS for Limerick nuclear plant which is nothing less than a white wash of epic proportion.

It is our conclusion and recommendation that the United States Senate should investigate the NRC for wilful blindness and regulatory malpractice and disallow or forbid all permitting decisions for Limerick nuclear plant until all unresolved findings, legal issues and recommendations from NRC's own staff are finalized and implemented.

And finally, ACE is again formally requesting that NRC hold a public hearing in Pottstown to address all of the relicensing issues for Limerick

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nuclear plant not specifically or adequately addressed in the environmental impacts. Our community deserves nothing less.

(Applause.)

FACILITATOR BARKLEY: Thank you. Betty?

And finally, Lorraine after her.

MS. SHANK: I have read NRC's safety evaluation reviews of Limerick and inspections and notices of violations. NRC inspectors, to their credit, do a good job identifying problems and citing violations, but somehow they get whitewashed by the time violations are issued.

Maybe what the public needs is what is done for Exelon. A cost-benefit analysis. If it got one, the result would show how indefensible Limerick license renewal is. NRC's job is to protect the public. But it has never acknowledged the astronomical costs and the lack of benefits for the public that results from Limerick nuclear operations.

As taxpayers and ratepayers, the public does not benefit from Limerick nuclear energy because Exelon makes its enormous profits while the public pays the lion's share of its business costs in one of the biggest corporate welfare schemes ever.

Public costs include construction costs,

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the enormous costs skyrocketed and were attached to electric rates that climbed to a whopping 55 percent above the national average.

Property and school taxes, Exelon refused to pay its fair share for years. Eventually, a settlement was reached and Exelon now pays around \$3 million a year. But that's a pittance compared to the \$17 million it should have been paying each year all along.

Avoidable diseases, cancers and other illnesses in this region are much higher than the national average and are linked to Limerick's radiation. The cost for one six-month-old child treated for just two years who has cancer is over \$2 million.

Water contamination. Limerick's toxic and radioactive waste water discharges cost water companies and their customers more money. Exelon should filter to protect public health and protect the water companies and the people who use their water downstream

High-level radioactive waste storage. Tons are produced at Limerick every year, remaining deadly virtually forever. The public cost is in higher taxes. And we are charged for it to be stored at Limerick.

Decommissioning. That's funded through

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hidden charges in our electric bills and through miscalculations, deliberate or not, on Exelon's part, \$100 million will be needed for Limerick which Exelon wants ratepayers to fund. Exelon makes mistakes, but we pay for them.

Exelon hands out donations like candy with one hand and picks our pockets to do it with the other. Its contributions to this community are paid for by us. It's pennies on the dollar for Exelon and the cost to the public are incalculable.

I do not support NRC's decision to relicense Limerick or understand why it is rushing to do so. And I fully support the Cuthbert's recommendations that come from ACE and that are calling for a renewed look at this problem. Thank you.

(Applause.)

FACILITATOR BARKLEY: Lorraine and if there's anyone else that would like to speak, please come see me.

MS. RUPPE: Hi, my name is Lorraine Ruppe and I live in Pottstown. How can NRC believe Exelon's outlandish claims that they are stewards of the environment when, in fact, evidence shows Exelon is damaging the environment every day Limerick operates.

Common sense tells us nothing in the world

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threatens our environment and our health more than Limerick nuclear plant operations. We shouldn't have to live with radiation, other toxics poisoning our water and bombarding our children because of Limerick nuclear plant operations. We shouldn't be faced with the depleting water supply because of Limerick's cooling towers or risk having no water if Limerick has an accident or a meltdown.

Our drinking water could dry up or become so radioactive we can't use it.

Exelon pumps toxic minewater into the river up to 80 times safe drinking water standards. The toxics don't magically disappear. They end up in our drinking water. And manganese, one of the toxics can lead to permanent brain damage from showering.

NRC dismissed serious threats to public drinking water from Limerick nuclear plant. NRC met with DEP and DRBC, but they just gave Limerick five-year permits to use and pollute our drinking water with dangerous loopholes and exemptions because Limerick can't meet safe drinking water standards or other protected limits. That didn't reduce our risks.

Exelon should have been required to filter Limerick discharges and those from the minewater to protect our drinking water and public health. Limerick causes irreparable and irreversible damage to the river

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and then donates to a fund deceptively claiming they protect the river. Not one dime of that fund was ever spent to reduce Limerick's radioactive or other toxic discharges.

Exelon's donations are a drop in the bucket compared to their profits and tax avoidances. Sadly, organizations hoping to get funding from Exelon ignore Limerick's poisoning of our water and children.

How can we take care of our health when we are forced to drink, bathe in, and breathe in toxic chemicals from Limerick operations every day? Too many people are really sick, have thyroid problems and are dying of dreaded disease like cancer.

Look at the huge cancer rallies in our community. Why should we risk our lives and fear meltdown, more sickness, cancer from Limerick's electricity when safer energy is available. The problem is NRC appears to be more of a salesman than a policeman.

Nuclear power already destroyed parts of the world. This dangerous dinosaur technology must make way for safe, clean energy alternatives that won't destroy our water supplies and our health. Thank you.

(Applause.)

FACILITATOR BARKLEY: Thank you, Lorraine.

Okay, at this point we have a little more

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time left. If there's anyone else that wanted to make any additional remarks I can have them up and if not I will at this point wrap up this meeting.

I was very pleased with the comments

provided and the way you handled yourselves during this meeting. I very much appreciated your respect for each and every one of the people in the audience. At this point again, we had mentioned you can submit written comments regarding the EIS up until June 27th, so I encourage you to do that and at this point I'd like to wrap up this meeting. Thanks very much.

(Whereupon, at 8:25 p.m,, the public meeting was concluded.)

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