

U.S. EPA Webinar on Proposed Regulation of Perchloroethylene under the Toxic
Substance Control Act (TSCA)

Transcript

Wednesday, July 19, 2023

Commencing at 1:00 p.m.

Sheerin Shirajan (ICF): Hello and welcome to the U.S. EPA Webinar on Proposed Regulation of Perchloroethylene. If you are having trouble with Zoom and are using the desktop app, please check your settings. If you are using a browser, we recommend either restarting or opening it with Google Chrome. If you have any general questions on the rule, please email PCE.TSCA@EPA.gov. If you have any technical questions, please utilize the Zoom Q&A box or email us at EPARulemaking@icf.com. Next slide, please.

All attendees are pre-muted. Please note that the public remarks session will take place after the presentation. Attendees who requested to make public remarks will be taken off of mute one at a time and given 3 minutes to provide their remarks. More information regarding this session will be provided later in the webinar. The chat will be used for broadcast messages only. Please refer to the Q&A button on your Zoom dashboard to submit technical questions. Please also ensure your full name and affiliation are correct. If you are registered to provide remarks and your name on Zoom does not align with your name at registration, please reach out to EPARulemaking@icf.com with your name as it currently appears in Zoom and the email address you registered with. This will ensure that you are still able to provide your remarks.

There are ASL and CLT interpreters at this webinar today. Interpreters will have their cameras turned on through the entirety of the webinar and will be pinned to the top left corner of your screen. Closed captions have been turned on and should be displayed at the bottom of your screen. Click and drag the captions to move their position into the meeting window. To hide closed captions, please click the hide captions icon on the right-hand side of your toolbar. An email before the webinar and following will be in your inbox from EPARulemaking@icf.com. The emails include details regarding accessing presentation slides. If you do not see communications from this email, please check your spam.

Please note this webinar is being recorded. The presentation slides will be available after the webinar has concluded at the links provided in the chat. And finally, the comment period for the proposed rule will close on Tuesday, August 15. Submit comments at EPA-HQ-OPPT-2020-0720. The link to access the docket can be found in the chat box. This concludes the announcements. We will now move on to the presentation. Thank you.

Eileen Murphy (EPA): Alright, I think I'm on. Good afternoon, everyone and welcome to you all. Thank you for joining us. My name is Eileen Murphy, and I am the director of the Existing Chemicals Risk Management Division with EPA's Office of Pollution Prevention and Toxics. Joining me on the webinar today is the whole team who've worked hard on developing the proposed rule that you're going to hear about today. We are so excited to host this event for you and so pleased to see that there's so much interest in this proposed rulemaking. This proposal demonstrates EPA's commitment to risk management of existing chemicals. I know many of you attended our previous event following the publication of the Proposed Risk Management Rule for Methylene Chloride.

Today, I'm excited to welcome you to our event for the proposed rule for perchloroethylene, also known as tetrachloroethylene or PERC, or as I'll refer to it today, PCE. As many of you are aware, the Toxic Substances Control Act or TSCA requires us at EPA to address unreasonable risk from chemical substances to the extent that they are no longer unreasonable to human health or the environment. Our unreasonable risk findings on PCE stem from health effects resulting from inhalation or skin exposure to this chemical. These well-documented impacts include neurotoxic effects to the central nervous system, kidney and liver effects, immune system toxicity, developmental toxicity, reproductive toxicity, as well as several types of cancer. As a result, we have proposed to prohibit most industrial and commercial uses of

PCE. The manufacture, including import, processing, distribution, and commerce of PCE for all consumer use, and the manufacture, processing, distribution, and commerce and use of PCE in dry cleaning through a 10-year phase out.

For certain uses, the proposal will require a workplace chemical protection program, known as the WCPP, that uses a familiar exposure management framework. Within this framework, there were some new elements, including a new risk-based exposure limit as well as provisions to prevent direct dermal contact. The new risk-based exposure limit is called an ECEL, which is an existing chemical exposure limit. This is an air concentration limit for a particular chemical in an occupational setting where inhalation risks exist. We're also proposing to grant an exemption for uses that are vital to the continuity of critical infrastructure for human space flight.

A key element to note here is that we understand and recognize that in some situations PCE is a vitally important chemical. While EPA is proposing significant prohibitions on many uses, our proposal also aims to find ways to preserve, with protective workplace controls, key uses of PCE in certain industrial and federal facilities. One of those key uses is laboratory use where EPA proposes that the use of PCE as a laboratory chemical would be required to have prescriptive workplace controls and to meet the provisions of the workplace restrictions for continued use of this chemical. We have based this proposed rule on the extensive risk evaluation for PCE that was published in December of 2020 and then revised, as well as the revised unreasonable risk determination in 2022. And many of you have attended our webinar in January 2021 that provided an overview of the risk evaluation and our key findings. And that is available on our website currently.

We were able to develop and refine this proposed rule through consistent public engagement over the past two years, including stakeholder meetings, consultation with tribes, small business, and people interested in environmental justice. Some attendees which may be with us here today. To those of you who have already written to us, who have met with us, and engaged with us since the first stage of that risk evaluation, thank you. We hope you see your contributions now in the risk management action that we are proposing. So, our goal today is to explain in plain language the rationale for our proposed action, several of the key details, and highlight specific areas where we are seeking comments from you to inform the final risk management rule. I want to emphasize that point. We are sincerely interested in substantive comments from you to consider as we work to finalize this rulemaking. As you will hear several times during the presentation, we strongly encourage you to submit comments to the docket. And the proposed rule has a list of some of the specific topics we're seeking public comment on, but we'd appreciate comments on any aspect of the rule that you would like to comment on. And you'll hear about how to do that later. We are tremendously proud of this important rulemaking, but it's not done yet.

Note that your continued participation is critical to helping us write and then finalize regulations that are both protective of human health and the environment. Under TSCA, we must address the unreasonable risk that we have identified and that is something we can only do together. We cannot emphasize enough our appreciation for your time and all the information that you provide to us. On behalf of the entire Office of Pollution Prevention and Toxics, we continue to look forward to collaborating as we move ahead. I will now turn it to Kelly Summers, who is the rule lead and the next speaker. And who will guide us through the rest of the presentation. Thank you, Kelly.

Kelly Summers (EPA): Thanks so much, Eileen. Hello, everyone. My name is Kelly Summers. I am a risk manager with the Environmental Protection Agency in the Office of Pollution Prevention and Toxics, and I am the rule lead on the Proposed Regulation of Perchloroethylene, also, known as

tetrachloroethylene, PCE, or PERC under the Section (6) of the Toxic Substances Control Act or TSCA. Welcome again to today's webinar. We are happy to have the opportunity to go over this proposal as we seek input during the public comment period, which closes on August 15. The purpose of today's webinar is to provide a high-level overview of the proposal that was published on June 16, providing any clarification that we can and an opportunity for members of the public to provide a verbal statement. The agency is working to finalize rules consistent with the statutory timeframes required under TSCA. As a result, we do not anticipate extending the comment period, which again closes on August 15. If your question is not answered today, you are welcome to get in touch with us and I will provide information on how to do that towards the end of the presentation. After which, as I mentioned, we will have time for folks to provide brief remarks on the proposed rule. I very much look forward to hearing from you all and I do again want to emphasize the importance of submitting comments to the docket by August 15 for EPA consideration as we develop the final rule. So, next slide, please.

Here on slide two, we have an overview of what we'll talk about today. Starting with the purpose of the rulemaking, followed by some background. We will then cover the list of regulatory tools available under TSCA and how the agency has developed the proposed risk management actions to address the unreasonable risk. Next, we'll review the proposed rulemaking for PERC in closer detail, the alternative regulatory actions, and the benefits of this proposal. And finally, we'll conclude with opportunities for comments, engagement, next steps, and additional resources. Next slide.

Here on slide 3, we have a little bit of history of TSCA. In June 2016, Congress amended TSCA with the Frank R. Lautenberg Chemical Safety for the 21st Century Act. This new law requires EPA to evaluate and address unreasonable risk from chemicals currently in commerce under imposed statutory timeframes in order to protect the public while outlining a predictable and comprehensive path for the regulated community. In 2016, PERC, along with 9 other chemicals, was identified for risk evaluation. These chemicals are often referred to as the First 10, and PERC is the third to publish a proposed rulemaking under amended TSCA. As required by the statute, EPA conducted a risk evaluation for PERC to determine whether the substance presents an unreasonable risk without consideration of costs or other non-risk factors. The risk evaluation underwent a scientific peer-reviewed process and public comment period. After incorporating feedback from the peer-review and the public, EPA published the final risk evaluation in 2020 and determined that PERC presents unreasonable risk under its conditions of use and proceeded directly to the development of the risk management regulation to address those risks. Next slide, please.

To that end, EPA's proposed rule would prohibit use of PERC, except for certain uses which would continue under workplace protection regulations. This proposal is based on the risk evaluation and extensive public engagement since 2016. The proposal is currently open for public comment again until August fifteenth and we encourage folks to submit comments to the docket. This comment period is an opportunity to submit information for EPA's consideration as we develop the final regulation. On to slide 5, please.

Here, we have a little bit of background on PERC. So, PERC, it's a solvent. It is used in a wide range of industrial purposes and in many commercial and consumer products. Its physical and chemical properties such as non-flammability, high boiling point, low global warming potential, and high chloride density make it a popular and effective solvent in many applications. The chemical also has a long history of use. These uses include dry cleaning, parts cleaning, processing aid in petroleum manufacturing, liquid and aerosol degreasing, adhesives, mold release, and photographic film to list a few examples. The highest volume of use is processing as a reactant where PERC is used in the manufacture of other chemicals. In the risk evaluation, the agency assessed these uses across the life cycle of PERC for manufacturing,

processing, distribution, use and disposal, and determined that 60 out of 61 conditions of use that were evaluated drive the unreasonable risk. Next slide, please.

Here on slide six, we provide more information on the unreasonable risk of PERC. As noted, EPA determined that PERC presents an unreasonable risk, and this is to workers, consumers, and bystanders to worker and consumer use due to these significant adverse health effects associated with exposure. The health risks associated with PERC are well established. Some of these risks are associated with acute single day exposures while other ones are associated with chronic long-term repeated exposure. The risk evaluation identified cancer effects from chronic exposure to PERC, including liver tumors, brain gliomas, kidney cancer, and testicular cancer. Other adverse health effects associated with long-term exposure include kidney and liver toxicity, immune system toxicity, and reproductive and developmental toxicity. The risk evaluation also identified acute effects to the central nervous system from short-term inhalation and dermal exposures. However, the most sensitive endpoint that drives the unreasonable risk is the chronic non-cancer endpoint of neurotoxicity, in particular visual and cognitive deficits resulting from long-term inhalation and dermal exposure. This proposed risk management rule is targeted to those risks. By addressing the most sensitive endpoint of neurotoxicity, we'll also address the risk for other acute, chronic non-cancer, and cancer health endpoints. Lastly, on this slide from the 2020 risk evaluation, EPA did not find any reasonable risk to the environment. Next slide, thanks.

Slide seven describes EPA's authority under TSCA. Under revised TSCA, EPA is required to address unreasonable risk and has the authority to apply restrictions throughout the supply chain. EPA can regulate manufacturers, importers, processors, distributors, commercial users, and businesses or facilities that dispose of PERC. It is worth emphasizing that while EPA cannot directly regulate consumers from using PERC, we are able to regulate the manufacturers, processors, distributors, and retailers in the supply chain to restrict the availability of it to consumers. By regulating at key points throughout the supply chain, EPA can effectively prevent PERC from reaching consumers and thereby addressing the unreasonable risk. Next slide.

Here on slide eight, we have what I like to think of as our TSCA toolbox for addressing unreasonable risk. EPA has the authority to restrict the manufacturing, processing, or distribution in commerce for the chemical as a whole or for a particular use. This could include prohibition as well as the ability to set limits on weight fraction or production volume for a chemical or for a particular use of the chemical. We can also require record keeping, monitoring, or testing as well as regulate the commercial use or disposal of a chemical substance. I want to bring focus to the fifth bullet on the slide that specifies that EPA can prohibit or regulate manner or method of commercial use. This is the authority that allows EPA to set inhalation exposure limits, to prescribe certain engineering controls, administrative controls, personal protective equipment, or other workplace restrictions. Of course, any of these potential regulatory options have to be supported by the findings and the risk evaluation. And any of these regulatory options here on the slide could be used alone or in combination so that the chemical no longer presents an unreasonable risk. Next slide.

Here on slide nine, now that we've gone over EPA's authority and regulatory toolbox under TSCA, we are going to discuss how EPA went about ensuring that we are putting our best foot forward during the development of this risk management rule. Transparency is important to us through the whole TSCA risk evaluation and risk management process. Meaningful dialogue between the agency and stakeholders is the foundation of finding risk management strategies that are going to work to protect human health in the environment and work for the regulated community. We hope this is a common ground between the agency and our stakeholders, the deeper understanding we have of chemical uses, hazards, and exposures, the better we can focus our efforts and ensure outcomes that reflect the way chemicals are actually being

used. To develop this proposed regulation for PERC, we engaged in one-on-one meetings, had public webinars, several comment periods, peer-review, and consultations with state and local governments with tribes, environmental justice communities, and small businesses. For this proposed rule, this also meant ongoing consultation with other federal agencies such as OSHA and NIOSH to promote a consistent and harmonized regulatory approach, and to avoid duplicative requirements. We also convened a small business advocacy review panel with SBA Advocacy and OMB to seek input from small businesses. Stakeholders were essential to the development of this proposal and will be essential to its finalization. So, for those of you who have already engaged with EPA to discuss PERC, of whom I see quite a few familiar names in this meeting, thank you so much for reaching out and providing input. And thanks to everyone else in advance for any input you may provide as we move forward to develop the final rule. Next slide. Thanks.

Here on slide 10, with that being said, EPA's first and foremost priority is to address the identified unreasonable risk. Congress included some considerations in the statute to guide us, including requirements to consider and address risk to potentially exposed or susceptible subpopulations such as workers and consumers. Consideration of the chemical's particular effects, the magnitude of exposure, the benefits of a chemical substance, economic impacts of the regulation, and availability of alternative substances or processes. This proposed regulation is supported by the best available science and reasonably available information. Next slide.

Here on slide 11, we've arrived at our overarching goal to develop regulations that address the unreasonable risk from PERC exposure with a practical and protective approach. To that end, you'll see that the PERC proposal presents a familiar regulatory framework for occupational and consumer exposures by aligning with how OSHA regulates workplaces wherever possible. This proposal keeps PERC out of home and consumer markets. It prevents occupational exposures where implementing adequate protection would not be practical. It provides protection for workers not previously protected by other federal statutes, and it requires strong supporting documentation of safe use. Next slide.

That being said, I want to emphasize that this is a proposal based on the best information we have at this time. We are requesting comments on all aspects of the proposal and fully intend to consider all comments and, if appropriate, modify the proposal so that a final rule is as protective and practicable as possible. We'll talk about the specific request for comments throughout this presentation. But broadly, we'd like to ask for input on the timelines and the proposal for phase outs and implementation of new requirements, as well as the ability for each use of PERC to meet an occupational exposure limit and implement workplace protections that would address the unreasonable risk. Public comments submitted to the docket could result in changes to elements of the proposed regulatory action. For example, EPA finalizing shorter or longer compliance timeframes or more uses subject to workplace controls instead of a prohibition. Next slide, please.

Here on slide 13, we have arrived at our proposed regulatory action. To address the identified unreasonable risk for PERC such that it is no longer unreasonable. EPA is proposing a prohibition on the manufacture, processing, and distribution in commerce for all consumer use, as well as a prohibition on many commercial uses, most of which would be in effect 2 years after a final rule, except for dry cleaning, which would be subject to a longer phaseout period of 10 years. This proposal also includes an exemption to those prohibitions for products containing PERC at de minimis levels. For ongoing uses, EPA is proposing a workplace chemical protection program, including inhalation exposure limit and provisions to prevent skin contact, and workplace laboratory controls. EPA has also proposed a time limited exemption from the prohibitions for uses important for human space flight. This proposed rule would protect consumers and workers while allowing for the continued use of PERC for uses that can

comply with the proposed workplace protections, and for uses that are important for national security, critical infrastructure, and to support the EPA's climate change initiatives. I will go over all these aspects of the proposed rule in more detail in the next few slides.

Starting on the next slide, slide 14, with the proposed prohibitions related to consumer use. In the final risk evaluation, EPA determined that the use of PERC and consumer products presents an unreasonable risk to consumers and bystanders to users of consumer products. TSCA requires the agency to protect consumers from unreasonable risk. However, as mentioned earlier, we cannot directly regulate consumer actions or behaviors. Therefore, this rulemaking addresses the risk to consumers by regulating the upstream life cycle stages. So, we are proposing to prohibit the manufacture, processing, and distribution of PERC for consumer use. This includes a prohibition to and by retailers or any entity that has a consumer customer. This approach will prevent access to PERC and PERC-containing products by consumers. As with all risks and uses, we did consider the full suite of tools available to us under TSCA Section 6(a) to address the unreasonable risk and did not jump straight to a prohibition. For consumer use, we looked at whether setting a concentration limit or a maximum weight fraction of PERC and products would address the unreasonable risk, while allowing for continued use of consumer products containing PERC. What we found was that a weight fraction that would be needed to address the unreasonable risk would be so low that it would essentially act as a prohibition as the products would likely not be efficacious. Which, again, underscores the seriousness of the risks posed by this chemical. Alternative products and formulations are available and on the market for almost every consumer use.

Here we are on slide 15. You'll see that the consumer prohibition will span all consumer products that contain PERC. What is being presented here on the slide is not an exhaustive list, but instead it highlights some common uses that were evaluated for consumer risk. EPA's proposal prohibits the manufacture, processing, and distribution of PERC for any and all consumer use. Next slide.

Here on slide 16, we are shifting focus to industrial and commercial use. When determining how best to address risk to workers from a particular use of PERC, EPA considered a variety of factors such as aspects of a particular work activity that may create challenges to implement workplace controls. For example, challenges with meeting and inhalation exposure limit or developing an industrial hygiene program. This includes looking at the process and activities involved in a particular use, the magnitude of the identified risks, the degree to which engineering controls and industrial hygiene programs are implemented throughout the sector, the potential for regrettable substitution or transition to a more hazardous substance, challenges that may be involved with effectively using personal protective equipment, and so on. You will hear a theme through all of these considerations. Uncertainty about the potential implementation of strict workplace controls is a driving factor when deciding how to manage a chemicals risk for a particular use. In many cases, there is significant uncertainty with regard to whether a sector to successfully meet EPA's inhalation exposure limit and implement workplace protections. This uncertainty combined with the severity of risks of PERC has led EPA to propose prohibitions for most industrial commercial uses. EPA plans to phase out these prohibitions throughout the supply chain, with prohibitions beginning at the manufacturing stage at 12 months after a final rule, and full implementation after 24 months for most uses. In addition, EPA determined that products containing PERC at de minimis levels of less than 0.1% would not drive the unreasonable risk presented by PERC. As such, products containing PERC at these levels would not be subject to the proposed prohibitions. Next slide.

Here on slide 17, this includes a list of the industrial and commercial uses that would be prohibited under EPA's proposal. I want to emphasize that like consumer use, this is not an exhaustive list. All industrial and commercial uses would be prohibited except for the uses covered by workplace protection requirements, which I'll describe in a few slides.

On to slide 18. Among the uses that EPA is proposing to prohibit is the use of PERC in dry cleaning and spot cleaning. Based on outreach, EPA understands that most dry cleaners are small businesses that may need additional time to invest and acquire the equipment needed to transition to an alternative dry-cleaning process or solvent. Therefore, EPA is proposing a longer phase up period of 10 years to give dry cleaners a reasonable time to transition away from PERC. In developing the phase out timeframe of 10 years, EPA considered precedence set by state regulations, for example, California and Minnesota's prohibitions on dry cleaning, EPA's dry-cleaning national emissions standards, and information provided by industry and state and local governments. Dry-cleaning machines have a useful lifespan of about 15 to 25 years after the manufacture date when they're maintained well, and very few new PERC machines have been produced or sold in the US market in recent years. We've also heard that alternatives to PERC are available such as wet cleaning, hydrocarbons, and other multi-solvent dry-cleaning machines. Ultimately, the use of PERC in dry cleaning is declining as machines are retired and alternatives are adopted. We also understand that demand for dry clean items has decreased as a result of the COVID pandemic, changes in clothing preferences, and a variety of other factors. At the end of the 10-year phase out period, EPA believes that very few PERC machines will still be economically viable, but we are very interested in hearing public input on the economic impact of this phase out for dry-cleaners. As you can see on the slide, the phase out would start 6 months after the publication date of the final rule, where users would be prohibited from using PERC in any dry-cleaning machine that's acquired 6 months after the rule. At 3 years, users would be prohibited from using PERC in any third generation PERC dry cleaning machine. And at 10 years, the phase out would be in full effect, meaning that users would be prohibited from using PERC in any dry cleaning and spot cleaning, and that there would be a prohibition on the manufacturing, processing, and distribution of PERC for use as a dry-cleaning solvent. Next slide.

Now that I've gone over the proposed prohibitions related to industrial and commercial use, here on slide 19, I want to shift focus to the workplace chemical protection program. Which will apply to most industrial and commercial uses that are not prohibited and is described in full in unit IV.A. of the proposal. A Workplace Chemical Protection Program protects people from unreasonable risks posed by occupational exposure. We mentioned this earlier, but I'll mention it again here that under TSCA, EPA has an obligation to protect potentially exposed or susceptible subpopulations, which includes workers and other folks occupationally exposed to PERC. For folks familiar with any of the OSHA permissible exposure limits or PELs, and the expanded standards for toxic and hazardous substances under OSHA, the Workplace Chemical Protection Program will look very familiar. For PERC, the value of EPA's proposed inhalation exposure limit, which I'll describe on the next slide, is significantly lower than the OSHA regulatory PEL of 100 parts per million. This is in part because EPA's limits included in the Workplace Chemical Protection Program are risk based. So, the limits themselves do not factor in technical or economic feasibility, like OSHA must consider when developing exposure limits. When determining which uses should be prohibited and which should comply with the Workplace Chemical Protection Program, EPA factored in the feasibility of meeting this risk-based exposure limit for PERC. Uncertainty regarding the ability to comply with the low exposure limit, a supporting monitoring program, and robust exposure control plan requirements influences whether a condition of use is considered to be a candidate for the Workplace Chemical Protection Program or whether prohibition is more appropriate. Because, as I mentioned before, EPA's foremost priority is to address the unreasonable risk as required by TSCA. EPA understands that there may be uses out there that have fallen under the proposed prohibitions, but where entities believe they can successfully meet the provisions of the proposed Workplace Chemical Protection Program. And as such, the agency welcomes and encourages those folks to submit data to the agency that illustrates this during the public comment period.

On to slide 20, we have more information about the provisions of the Workplace Chemical Protection Program for PERC. This includes a risk-based exposure limit and additional requirements to support the implementation and compliance of such a provision. The agency has identified an existing chemical exposure limit or ECEL of 0.14 parts per million over eight hours as the level needed to eliminate the unbelievable risk from inhalation exposures. This value is based on the best available science that was peer-reviewed by a science advisor committee during the risk evaluation. Additionally, the Workplace Chemical Protection Program would include monitoring, record keeping requirements, an exposure control plan that considers that NIOSH hierarchy of controls, as well as respiratory and dermal personal protective equipment requirements to prevent experiences of the exposure limit. Next slide.

As I mentioned earlier, the PERC Workplace Chemical Protection Program reduces compliance burdens by following a familiar framework. Like OSHA's existing standards for toxic and hazardous substances, the Workplace Chemical Protection Program for PERC would require initial monitoring to determine frequency of periodic monitoring. This could occur every 3 months, 6 months, or 5 years based on measured air concentrations as compared to the ECEL. The Workplace Chemical Protection Program also requires consideration of the NIOSH hierarchy of controls, which allows entities flexibility to determine which controls will best control exposures in their workplace to lower worker exposure. Last, EPA's Workplace Chemical Protection Program applies to owners and operators as well as potentially exposed persons. Unlike under the OSH Act, EPA is not limited to regulating employers and employees and is in fact required to address any unreasonable risk that might occur from occupational exposures, regardless of whether folks subject to those exposures fall under the purview of the existing OSHA PELs. Next slide.

Slide 22 here includes a list of uses that are not prohibited that would continue with strong achievable worker protections under the Workplace Chemical Protection Program. These uses include processing as a reactant to make other substances, notably for the production of fluorinated compounds that can be mixed into hydrofluorocarbon blends that have a low global warming potential. Also includes processing aid in petrochemical manufacturing, vapor degreasing where PERC is known to be an effective and reliable solvent for precision cleaning of high-value military, aerospace and automotive products, masking for chemical milling where PERC is used in the development of aircraft skin panels, and industrial adhesive products. Next slide.

Another condition of use that EPA is not proposing to prohibit so long as worker protections are in place is the industrial commercial use as a laboratory chemical. For use of PERC in labs, the proposal would require use of fume hoods and dermal personal protective equipment such as impervious gloves when using PERC in a laboratory setting. In developing the requirements for laboratories, EPA considered the risk evaluation, existing good laboratory best practices, and the OSHA standard for occupational exposure to hazardous chemicals in laboratories. EPA understands that there are other types of engineering controls that are used in laboratories to minimize exposure to PERC and is particularly interested in the effectiveness of such controls to reduce exposure and the best practices to maintain such controls. Next slide.

Here on slide 24, I'm going to talk for a moment about the proposed Section 6(g) exemption for certain uses important for human spaceflight. So, Section 6(g) of TSCA permits an exemption to the prohibitions or restrictions if EPA finds that a specific condition of use is a critical or essential use for which no technically and economically feasible safer alternative is available, if compliance with the rule with significantly disrupt the national economy, national security, or critical infrastructure, or if the specific condition of use as compared to the alternatives provides a substantial benefit to health, the environment or public safety. It's important to note that an exemption from a prohibition or restriction under TSCA

means that an unreasonable risk may not be fully addressed. With that in mind, EPA is proposing a 10-year exemption for emergency uses of PERC and furtherance of NASA's mission. Exempt uses must document efforts to comply with the provisions of the Workplace Chemical Protection Program to the extent feasible. Next slide.

Slide 25 describes additional requirements of the proposed rule. The proposal also requires folks to provide downstream notification of the restrictions by revising safety data sheets and record keeping requirements include maintenance of normal business records as well as records related to Workplace Chemical Protection Program and workplace laboratory controls. Next slide, please.

Slide 26 here provides some information on the proposed compliance timeframes as I'm sure folks are wondering when these restrictions would apply if the rule is finalized as proposed. Under TSCA, compliance states must be as soon as practicable while providing for a reasonable transition period. Once the rule is finalized, prohibitions related to consumer and commercial uses would become effective in 12 months for manufacturers, 15 months for processors, 18 months for distributing to retailers, 21 months for retailers, and 24 months for commercial uses after publication date of the final rule. Prohibitions for dry cleaning would occur over a 10-year period as described earlier. Through the Workplace Chemical Protection Program, regulated entities would be expected to have their monitoring started within 6 months, regulated area designated in 9 months, and development of an exposure control plan within 12 months. And for a workplace laboratory control that would be required, these would need to be within 12 months of a final rule. Next slide, please.

Here on slide 27, TSCA requires the agency to consider an alternative regulatory action in addition to the proposal. This proposed rule considers two alternative regulatory actions. The primary alternative regulatory action described on this slide is also a combination of prohibition, the Workplace Chemical Protection Program, and prescriptive controls. This option prohibits the fewest uses and includes longer compliance timeframes than the proposed action. Under this option, we would still prohibit all consumer use. We would also prohibit most industrial commercial use except for uses specified for workplace controls. Similar to the proposed action, the industrial and commercial uses that would be prohibited are those that EPA expects, where regulated entities will have a particular challenge implementing an existing chemical exposure limit or other provisions of the Workplace Chemical Protection Program. For example, we'd prohibit uses with work activities that require a high range of motion, that require manual application or removal of the chemical, that have activities where users would need to heavily rely on respirators or journal personal protective equipment to meet the requirements of the Workplace Chemical Protection Program, or where we have some other reason to suspect other regulatory approaches will not be will not effectively reduce exposures to address the unreasonable risk. The primary alternative regulatory action would also require the Workplace Chemical Protection Program for lab use and for some industrial commercial uses that are prohibited in the proposed action. These are generally conditions of use where EPA has uncertainty in ECEL feasibility and the availability of alternatives, or whether these uses may otherwise be critical or essential. This option would also prescribe specific controls for uses that are subject to the Workplace Chemical Protection Program in the proposed regulatory action. This would include a concentration limit of 1% for industrial adhesive and sealant products. As well as respirators and dermal PPE for other uses. These are generally uses where EPA lacks information on whether risk reduction from specific engineering controls or administrative controls would adequately address the unreasonable risk. But the EPA also understands that some users may be more accustomed to or prefer a more prescriptive regulation. Therefore, EPA is seeking comment on the specific controls that would address the unreasonable risk. Next slide, please.

Here on slide 28, we have our second alternative regulatory action. As with the other options, the second alternative action is a combination of prohibition and workplace controls. This option prohibits more uses and includes shorter compliance timeframes than the proposed action. For this option, all consumer use and most industrial and commercial use is prohibited, including for vapor degreasing and masking for chemical milling. However, the second alternative action also provides a 10-year time limited exemption under Section 6(g) for masking for chemical milling and vapor decreasing by military and civilian aerospace where restrictions could significantly impact national security or critical infrastructure. Next slide.

Here on slide 29, we touched on the benefits of the proposed rule, which I don't think I can overstate. This rule would reduce the risk of adverse health effects for workers, consumers, and bystanders with identified and reasonable risk in the risk evaluation. It would also blanket the majority of facilities effectively eliminating potential exposures to neighboring communities. It would provide the regulated community with confidence in a protected and healthier workforce. And this proposal would allow certain industrial commercial uses to continue where workplace controls can be implemented to address the unreasonable risk. Next slide, please.

On slide 30, here we are. As noted earlier, this proposal is based on reasonably available information at the time of the proposal, and we are seeking comment on all aspects of the proposed rule that EPA should consider as we finalize the goal. This proposal includes requests for comments throughout, which are listed in full in Unit 8 of the notice of proposed rulemaking. This slide highlights a few of those topics on which we are eager to receive information, many of which we've already touched on during this presentation. This includes the Workplace Chemical Protection Program and its various components. The feasibility of complying with and monitoring for an ECEL of 0.14 parts per million as an 8 hour time-weighted average, the timeframes for implementation of the requirements, the estimated impacts to the dry cleaning industry, including regarding expected closures, the specific engineering or administrative controls that would address the unreasonable risk, availability of feasible alternatives to PERC that are safe and effective, and whether there are any uses that are currently proposed to be prohibited that may need a longer timeframe or can meet the requirements of the Workplace Chemical Protection Program.

On to slide 31. We list here some examples of potentially useful information for key areas of uncertainty that should include information within the last 20 years or so. This includes personal breathing zone or area monitoring data, process emission factors, descriptions of commercial worker activities and associated sources of exposure, descriptions of controls that are in place to reduce exposures, product formulation information, and other relevant unpublished data. Public comments submitted to the docket could result in changes to elements of the proposed regulatory action. We want to hear about the ability to meet workplace controls and compliance timeframes and detailed and robust data to support or substantiate any comment is very important.

Here on slide 32, we have some next steps. As noted earlier, the public comment period closes on August 15, in about 27 days. Please submit comments to the docket for EPA consideration as we develop the final rule, which is expected to go out in 2024. The slide also includes estimated effective dates for the proposed prohibitions and restrictions, should the rule be finalized as proposed.

On to the next slide, slide 33. We have links to additional resources, including to EPA's TSCA risk evaluation and risk management webpages, and links to the dockets.

And finally on slide 34, use the link to the docket where comment must be submitted for EPA's consideration. If you have any additional questions that were not answered today, please submit it to the docket or email EPA at PCE.TSCA@EPA.gov. These slides and the links to the additional information,

resources, and contact information will be available on EPA web pages following this webinar. I will now pass it back to Sheerin with ICF to facilitate the public remarks portion of this webinar. Thank you so much to everyone for joining today. Thank you very much for engaging with the agency on this proposed rule. And I look forward to hearing your input. Thanks.

Sheerin Shirajan (ICF): Thank you, Kelly. We'll now begin with the public remarks session. If you requested to make public remarks, please ensure that your name on Zoom is the same as the name you registered with. If you're currently signed on Zoom under a different name and you registered to provide remarks, please email EPARulemaking@ICF.com with your name as it currently appears on Zoom and the email address that you registered with. The attendees who requested to provide public remarks will be given three minutes to provide remarks. We will call group numbers to begin. Each group member will be unmuted one at a time to make their statement. As a reminder, all remarks presented during the webinar will not be included as part of the docket and substantive comments should be provided in writing by Tuesday, August 15 to EPA-HQ-OPPT-2020-0720. The link to the docket is provided in the chat box. Before you begin your remarks, please state your full name and affiliation. A timer will appear on the top right corner of the screen and a time check will be sent to speaking attendees when they have one minute remaining. Next slide, please.

Once it is your turn to speak in your respective group and order in the queue, you will see a pop-up message. Please hit unmute when it's your turn to speak. Your three minutes will begin when you start your oral remarks. If you don't see the pop-up message above, go to the bottom left of the Zoom screen and hit the unmute button to speak. If you continue to have issues, please email EPARulemaking@ICF.com. Next slide.

Again, please state your full name and affiliation before providing your remarks. You will have a total of three minutes to speak. We will now begin with public remark group one with speaker number one. So, speaker number one, please unmute state your name and affiliation and begin your remarks.

Megan May (MJFF): Hello, my name is Megan May and I'm an Associate Director of Public Policy at the Michael J. Fox Foundation for Parkinson's Research. Thank you for the opportunity to speak today. As an environmental scientist, my focus at the foundation is preventing Parkinson's disease by reducing the environmental risk that can lead to Parkinson's. Parkinson's disease occurs when brain cells that make dopamine, a chemical that coordinates movement, stop working or die. Parkinson's symptoms worsen over time. Since there's no treatment to slow, stop, or reverse disease progression, nor a cure Parkinson's currently, our best option is to prevent and reduce exposures to Parkinson's disease risks to protect current and future generations. One of those risks can be exposure to PCE. Some of the scientific evidence about links between PCE and Parkinson's comes from Camp LeJeune, where drinking water was contaminated with PCE, TCE, and other compounds for over 30 years. PCE breaks down in groundwater to other products, including TCE. Recently published research earlier this summer examined case records of that training station at Camp LeJeune and compared to Camp Pendleton and found that veterans at Camp Lejeune had a 70% higher risk of Parkinson's disease. Even further, veterans without Parkinson's who served at Camp Lejeune were also more likely to have prodromal symptoms of Parkinson's disease. With that all in mind, I'm speaking today in support of the EPA's proposed PCE risk management rule that would reduce PCE uses and protect human health. From our PD community, Parkinson's disease

community, we hear stories that employees were often not aware of the harms of the chemicals they worked with. I've also heard concern from consumers that they could buy harmful chemicals that could have contributed to their Parkinson's diagnosis. Prohibiting PCE for consumer use, phasing out use of PCE for dry cleaning, and having stringent safety standards for workers meets these concerns. These actions may allow us to prevent a portion of the population from ever receiving a Parkinson's diagnosis. We especially appreciate the concern over use of PCE and agricultural chemical manufacturing as pesticides are another risk for Parkinson's disease. We encourage continued work, especially with minority owned small businesses to ensure that transition costs can be produced as cost can be an implementation barrier. When phasing out uses of PCE, we also encourage detailed research to ensure there is not a substitution of different harmful chemicals to human or environmental health. Thank you.

Sheerin Shirajan (ICF): Thank you for your remarks. We will now move on to the next speaker. Speaker number two, please unmute state your name and affiliation, and begin your remarks.

Jonathan Kalmuss-Katz (Earthjustice): Good afternoon. Can you hear me?

Sheerin Shirajan (ICF): Yes.

Jonathan Kalmuss-Katz (Earthjustice): Thank you very much. I'm John Kalmuss-Katz with Earthjustice. We'll be submitting written comments on the proposed management rule, but today I wanted to focus on three main points. First, EPA's proposed rule falls short of TSCA's mandate to eliminate perchloroethylene's unreasonable risks. EPA has not addressed the risks to residents of West Lake, Louisiana, Freeport, Texas, and other communities who, according to EPA's own calculations, will remain exposed to unsafe levels of PERC. EPA has not addressed the risks to workers who are exposed from multiple routes such as inhalation and dermal absorption of PERC vapors, or multiple pathways such as workers who are exposed on the job and in their communities. And EPA has not considered, much less eliminated the risks to people who are exposed to PERC that migrates from contaminated soil and groundwater into their homes, schools, and workplaces. Second, the shortcomings in EPA's risk evaluation do not prevent EPA from fully addressing perchloroethylene's risks in this rule. While many exposures and risks were unlawfully excluded from that evaluation, EPA still found that PERC as a whole chemical presents unreasonable risks to workers and consumers. The fenceline assessment similarly found elevated risks to impacted communities. Now, for the same reasons described in our comments on the methylene chloride risk management rule, a broader face out of PERC is better aligned with TSCA's mandate to eliminate those unreasonable risks less, burdensome to implement and enforce, and less legally vulnerable than a rule that doubles down on the flaws in the Trump administration's risk evaluation. Finally, this rule is EPA's best chance to replace a highly potent carcinogen with safer substitutes. EPA is right to phase out consumer and dry-cleaning uses of PERC. If anything, the dry-cleaning face out can and should be faster. But instead of ECELS, existing chemical exposure limits, that overwhelm EPA enforcement capacity, and leave many workers in burdensome and ineffective PPE, EPA should eliminate the risk through a broader prohibition or phase out. To the extent that EPA does limit workplace exposures through ECEL, we strongly oppose industry's efforts to water down those limits by comparing them to OSHA PELs that OSHA openly admits are outdated and unprotective. Everyday

millions of people work in their air and drinking water, and in their job TSCA requires. Thank you for your time.

Sheerin Shirajan (ICF): Thank you for your remarks. We are now going to move on to group two. So, next slide please.

We will begin with speaker number one in group two. Speaker number one, please unmute, state your name and affiliation, and begin your remarks. We will now move on to speaker number four. Speaker number four in group two, please unmute, state your name and affiliation, and begin your remarks. We are now moving on to speaker number six. Speaker number six, please unmute, state your name and affiliation, and begin your remarks.

Akinyemi Davies (Professional Drycleaning): Hello everybody. My name is Akaninyene Davies I'm calling in from Nigeria. I operate a professional dry-cleaning operation. I hope you can hear me.

Sheerin Shirajan (ICF): We hear you.

Akaninyene Davies (Professional Dry Cleaning): Can you hear me?

Sheerin Shirajan (ICF): We can hear you.

Akaninyene Davies (Professional Dry Cleaning): Right. I operate a professional drycleaning operation. I got to know about wet cleaning through The Clean Show, and Dr. Manfred from Kruessler Inc. products. So, when I visited The Clean Show in 2017, I was introduced into professional wet cleaning. I like the idea, and also I was aware of the dangers as it is being presented here today, considering PCE. So, when I returned back to my country, I decided to implement the wet cleaning. Ironically, people don't appreciate the idea that their fabrics would be handled through water-based solvents, but they like the outcome and they like the product. So currently, my plant operates 100% with wet cleaning and I have never had any issue. I have shut down my plants that were using PCE, and now doing 100%, but the people are not aware. So, I, in my opinion, wanted to also appeal to EPA. If they can explain the sensitization beyond the United States to government agencies or governments associations, related associations outside the borders of the United States so that they can sensitize the people of the risks associated with PCE, so that this transition could also be easy. Because 99% of dry cleaners are probably not dry cleaners in my country. They still use PCE. This sensitization will go a long way in easing the transition to alternative methods for cleaning. So my comment is this short. Thank you.

Sheerin Shirajan (ICF): Thank you for your remarks. We're now going to move on to speaker number 10. Speaker number 10, please unmute, state your name and affiliation, and begin your remarks.

Kevin Tiedemann (SAFECEM): Hello, my name is Kevin Tiedemann and I'm the HMS manager of the European company called SAFECEM. Can you hear me?

Sheerin Shirajan (ICF): Yes.

Kevin Tiedemann (SAFECEM): Great. Okay. SAFECEM. First of all, thank you for giving the opportunity to raise comments. SAFECEM, an experienced provider of solutions for the safe and sustainable use of solvents and industrial parts cleaning, was founded 30 years ago in Germany with the sole aim of making the use of solvents, especially PERC, clean safe and sustainable. We, together with the leading original equipment manufacturers, established a risk management solution to adhere with the most stringent regulation so far, which is the German Law for Air Pollution. This comment, and also the comment we will officially hand in, will therefore only focus on vapor degreasing in clothes cleaning processes. Firstly, we appreciate EPA's acknowledgement of the importance of PCE in vapor degreasing, and the intention to enable continuous availability in the Workplace Chemical Protection Program. Nevertheless, we need to clearly point out that the proposed existing chemical exposure limit of 0.14 ppm is not achievable in vapor degreasing applications. The clothes cleaning machines and the delivery and takeback of PCE and closed-loop systems are state-of-the-art technology and are able to meet the current most stringent occupational exposure limit of 10 ppm in Germany. Further reduction might be technically and economically challenging but might be achievable. Nevertheless, no company with a vapor degreasing process can adhere to a value of 0.14 ppm. To achieve such a value, the complete cleaning process would need to be optimized, which will lead to an economical cleaning process and a massive use of PPE, which is not doable in production facilities. The only viable option would then be to switch to an alternative, with which the desired cleaning results cannot be met, leading to potential threats for high quality demanding industries like aerospace or automotive. It needs to be understood by EPA that an enforcement of the value of 0.14 ppm is more or less equal to a prohibition of PCE and vapor degreasing. We therefore recommend EPA to read the background document prepared by the German authority for the justification of an OEL of 10 ppm which can be provided on request. And with that I would like to close my comment and again thank you for the opportunity to speak.

Sheerin Shirajan (ICF): Thank you for your remarks. We're now going to move on to speaker number 12. Speaker number 12, please unmute, state your name and affiliation, and begin your remarks.

Michelle Rudnick (CRC Industries): Okay. Am I coming through?

Sheerin Shirajan (ICF): You are.

Michelle Rudnick (CRC Industries): Great. Thank you. Hi, I'm Michelle Rudnick and I'm with CRC Industries. CRC is a global supplier of specialty formulated products used for maintenance and repair applications in the automotive marine electrical industrial markets. We manufacture over 1,300 items. providing products that are critical for rebuilding and maintaining America's infrastructure, a Biden

administration priority, which CRC supports. We do manufacture a few products that contain PCE, including break cleaners, general purpose industrial degreasers, and degreasers for use on and around energized electrical equipment. While all of these are important applications that require effective products to prevent malfunctions or worse problems, today in the interest of time, I'm going to focus on the use of PCE for cleaning of energized electrical equipment. Energized electrical equipment includes items such as electric motors, relays, electric panels, generators, and similar equipment. This equipment is found in a large variety of facilities, spanning commercial, institutional, and industrial operations. When cleaning energized electrical equipment, it is essential to avoid using flammable solvents. PCE has a unique set of chemical and physical properties that make it perfect for cleaning energized electrical equipment while maintaining the utmost level of safety for the user. It does not have a flashpoint or upper and lower explosive limit. It is truly non-flammable. We believe the EPA has fallen short in their assessment of this application and the harms that could result by banning PCE from this use. EPA's alternative analysis fails to identify any viable alternatives. For example, some of the alternatives listed contain trans-1,2-dichloroethylene. This is a chemical that is also on the TSCA high priority list for Section 6 risk evaluation. Trans-1,2-dichloroethylene is a flammable chemical and should not be treated as a safe alternative for cleaning energized electrical equipment. Even though the trans-1,2-dichloroethylene can be blended in a fashion that may test as nonflammable under certain product characterization testing, that does not mean that there won't be scenarios where the chemicals could separate and flash, or create a formidable atmosphere. Working on energized equipment is already inherently dangerous, but technicians should be able to feel confident that their cleaning product will not introduce an additional potentially disastrous hazard. EPA's claim that there are no barriers to restricting PCE use for energized electrical painters is incorrect. It is important to maintain PCE for this application for the safety of these users. EPA must fix the 12 alternative assessment and provide a scientifically sound assessment of PCE. To ensure the continued safety of electrical contractors and maintenance professionals, EPA should provide an exemption for energized electrical cleaners to continue to use PCE. Thank you for the opportunity to comment.

Sheerin Shirajan (ICF): Thank you for your remarks. We now like to skip to group four. So, two slides over please. Okay, we will now be starting with speaker number four in group four. Please unmute, state your name and affiliation, and begin your remarks. Okay, we will now move to speaker number seven. Speaker number seven, please unmute, state your name and affiliation, and begin your remarks.

Mike Cronin (NYDEC): Hi, this is Mike Cronin, I'm a professional engineer with the New York State Department of Environmental Conservation. And ultimately New York with the Division of Air Resources. As I'm sure EPA knows, but for others as well, New York State has had an advanced PERC dry cleaning program for the past 25 plus years or so. Which has gone well beyond the federal PERC NESHAP, along the way the regulation has phased out new third-generation installations anywhere from 1997 through 2002, that began phased out existing third generations about a year ago or more. And then obviously, we follow the new, the fourth-generation co-residential bans as well. In addition to that, our regulation has required a bunch of other items such as vapor barrier rooms to reduce exposure in co-located settings. With that, each dry cleaner, and we began to program with 4,000 plus dry cleaners at the time. Each cleaner, every year, they have an annual compliance inspection performed. Part of that is a passive sampling that's done basically a batch sample is placed at the breathing level within the dry-cleaning facility. So, we have a plethora of data on the exposure levels from those inspections. A little curious, hearing the reference to where EPA sort of relied on certain other states, given New York's

program as, I'm not, I'm not bragging by any means, but it's probably one of the more proactive, been one or more of the proactive programs in the country for, like I said, the last 25 years. Why did EPA not take us up on our offer to look at our passive sampling exposure levels? You may have actually been a little surprised that with the requirements of our regulation, and obviously we take PERC exposure very seriously. But there's indication that dry cleaners abiding by a regulation such as ours and maybe some additional tweaks perhaps could meet the EPA's proposed point 0.14 ppm limits. So, I'll just leave it at that. Again, we had offered it. We were not taken up on the offer. And I'm not promoting either way whether to ban it or not. I am obviously not in that business, I'm a regulator here. And obviously PERC is a HAP. So, we understand the concerns. Why I bring that up however is, for those that want to stay in business and not just PERC dry cleaning, so many other industrial uses too that make look for alternatives. What's being done for alternative solvents? I'll use the dry-cleaning industry for example. Currently, New York, we evaluate all alternative dry-cleaning solvents. And we do a toxic risk assessment. Only those that we feel comfortable with are allowed to be used as an alternative dry-cleaning solvent. That's codified in our in our current regulation on dry cleaning. Which we modified about 5 years ago.

Sheerin Shirajan (ICF): Mike, sorry to cut you off. Sorry, your three minutes are up.

Mike Cronin (NYDEC): Yep. Okay, do you want me to just quickly finish or am I done?

Sheerin Shirajan (ICF): Just quickly finish, please.

Mike Cronin (NYDEC): All right, so, I was just, I didn't see anywhere in the proposal that deals with these possible unintended consequences of driving the industry to other alternative solvents or other cleaning options for instance to replace PERC.

Sheerin Shirajan (ICF): Thank you very much for your remarks. We're now going to be moving on to group number 5. Okay, speaker number four in group number five, please unmute, state your name and affiliation, and begin your remarks.

Steve Norris (Plasma Technology): Hello, my name is Steve Norris with Plasma Technology. My concern is similar to the previous speaker, is the alternatives. So far, we've been using PERC in the aerospace industry working on a lot of safety critical safety parts flight parts. It's been long tested for years and a new solvent would be hard to test cause we're looking for long term testing. And looking at the material data safety sheets or safety data sheets, we're looking at the neurological effects on some of these chemicals that are used as far as the hydrocarbons and some of the others and we're finding similar cancer issues with the rat studies and similar neurological issues. And so, we're looking for a tested alternative for that. Also, if we do change over to another cleaning process, it is going to take a very, it's going to take months or even 10 months for a year to get a new machine at about \$400,000-500,000. So that's going to be a huge impact on our company. We're a small company. And we have a variety of different customers like Boeing and Northrop they may want two different types. One might be one aqueous another one might want a hydrocarbon or modified alcohol. Please keep that in mind that we still

have a big supply chain issue. And that's something they keep in mind and we'd still like to have a safe, un-regrettable, alternative to PERC since PERC has been around since 1920 as the established cleaning solve it for aerospace. Thank you.

Sheerin Shirajan (ICF): Thank you for your remarks. We're now going to move on to speaker number six. Speaker number six, please unmute, state your name and affiliation, and begin your remarks. Okay, we're now going to move to speaker number seven, speaker number seven, please unmute, state your name and affiliation, and begin your remarks.

Dan Nowlan (Berryman Products): My name is Dan Nowlan. I'm with Berryman Products. I'm the Director of Chemical Development and Regulatory Affairs. I appreciate the opportunity to speak. I would like to echo the concerns that previous speaker Michelle Rudnick expressed regarding energized electrical cleaning. This is an application that truly has no other viable alternatives. She mentioned the product trans which has been pushed mainly by the suppliers, but it is not suitable because of the flammability issues that it presents. So, I, keep this very short. I just think that we need to take a step back and consider the hazards and the ramifications of using flammable solvents or potentially flammable solvents in what is a critical application. So, thank you.

Sheerin Shirajan (ICF): Thank you for your remarks and thank you to everyone for making their remarks today. We are reaching the end of the public remarks session and I will now be passing it off to Niva for closing remarks.

Niva Kramek (EPA): Great, thank you. I want to thank everyone who attended and provided remarks to our speakers, especially Kelly, leading the rule team and everyone who has been supporting this. My name is Niva Kramek and I'm a team lead in the Existing Chemicals Risk Management Division. And on behalf of the Office of Pollution Prevention and Toxics, we thank you again for your remarks and your participation in this webinar and your continued participation in our rulemaking process. It is invaluable to us as we work through the final rulemaking for perchloroethylene. We look forward to receiving your written comments by August 15 through the PCE docket. Thank you.