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April 27, 2020

Stan Barone

Office of Pollution Prevention and Toxics

Environmental Protection Agency

1200 Pennsylvania Ave NW

Washington, DC 20460-0001

RE: Trichloroethylene, Draft TSCA Risk Evaluation;
Docket ID: EPA-HQ-OPPT-2019-0500-0001

Dear Dr. Barone,

The National Tribal Toxics Council (NTTC) appreciates the opportunity to provide comments on the Trichloroethylene (TCE) Draft Risk Evaluation under TSCA. As an EPA Tribal Partnership Group (TPG), supported by the EPA Office of Pollution Prevention and Toxics (OPPT), NTTC works on issues related to chemical safety, toxic chemicals, and pollution prevention for Indigenous people of the U.S.

Through this partnership, we assist OPPT with education and outreach to tribes and, in turn, educate and inform EPA on the effects of chemicals and pollution upon tribal people.

In February 2020, the EPA released a draft risk evaluation on trichloroethylene. The purpose of risk evaluations under TSCA is to determine whether a chemical substance presents an unreasonable risk to human health and the environment under the conditions of use, *including an unreasonable risk to any relevant potentially exposed or susceptible subpopulations.*

NTTC is concerned that EPA has left out tribes and other vulnerable populations unprotected from this dangerous chemical. TCE is widely used in consumer and commercial products, as well as in industry. It is used as an intermediate in hydrofluorocarbon manufacture for refrigeration, as well as a solvent in cleaning and degreasing products, lubricants and greases, adhesives and sealants, paints and coatings, laundry and dishwashing products, and arts and craft materials. It is also a process solvent for recycling and worker handling of wastes. In 2015, close to 172 million pounds of TCE were produced.

The current coronavirus pandemic disproportionately impacts tribal communities. Tribal environmental staff, who would typically be the primary parties to research and prepare comments for discussion and direction from their Councils—are the very staff who are also responsible for leading their tribal nation’s response to the numerous Covid-19 environmental health concerns. They must ensure indoor air, waste disposal, and water treatment operations and community practices are changed to conform with the best up-to-date information and that their workers and community are safe and informed. They do this while often homeschooling and caring for Elders, supervising staff if they have them, and learning and keeping up-to-date with the pandemic.

Our Council members, as tribal employees, are no exception and their NTTC duties are in addition to, and completely separate, from their work for their tribes. We believe that the comment deadline provided by EPA for this chemical is too short under normal circumstances to expect substantial tribal comment for reasons expressed previously by us regarding other TSCA related comment opportunities. At this time in history, the comment periods for TCE and other draft evaluations out under TSCA, which so impact tribes, clearly are inadequate.

Based on our initial review of the draft risk evaluation, NTTC is concerned that EPA has once again left out tribal populations’ exposures to a toxic chemical from a risk evaluation and the risks they face have not been evaluated. We will take this opportunity to make 6 major points in this comment letter:

1. Disposal is a condition of use
2. Tribes are a potentially exposed subpopulation
3. Exposures Covered by Other Environmental Statutes
 - a. General Population Exposures
 - b. Worker Exposures
4. Risks from Aggregate and Cumulative Exposures
5. Legacy Use
6. Systematic Review

1. Disposal is a Condition of Use

Recently, the Ninth Circuit Court of Appeals affirmed that “TSCA’s definition of ‘conditions of use’ clearly includes “spills, leaks, and other uncontrolled discharges” from landfills, Superfund sites, and other disposal sites. EPA’s Science Advisory Committee on Chemicals (SACC) similarly noted in its report on the 1,4-dioxane and HBCD risk evaluations that the EPA failed to consider releases associated with disposal. However, despite TSCA and that Court decision, the TCE draft risk evaluation also does not evaluate the risks associated with disposal-related releases. On page 35 of this draft risk evaluation, EPA states that:

“As part of the problem formulation for TCE, EPA found those exposure pathways (from air, water and land releases) are covered under the jurisdiction of other environmental statutes, administered by EPA, which adequately assess and effectively manage those exposures, i.e., CAA, SDWA, CWA, and RCRA. EPA believes this TSCA risk evaluation should focus on those exposure pathways associated with TSCA conditions of use that are not subject to the regulatory regimes discussed above because those pathways are likely to represent the greatest areas of concern to EPA.”

As the SACC stated in its report on the 1,4-dioxane and HBCD risk evaluations, and with which NTTC agrees:

“The Committee discussed that if each program office of the EPA says others are assessing the risks and thus not including them in their assessment, the U.S. public will be left with no overall IRIS assessment of risks. If risks have been assessed by other program offices of EPA then the Agency should present them as part of the underlying data to support this TSCA Evaluation—if not, the Agency must gather the data for an assessment or include an assessment based on the assumption of near-worst-case exposures.”

In order to have a complete picture of how TCE endangers human health and the environment, all exposure pathways need to be considered and EPA should revise the draft risk evaluation of TCE to account for all sources of exposure.

In order to make an accurate risk characterization of tribal communities in particular, EPA must consider TCE release from landfills. As NTTC has described in detail in previous comment letters, the disposal circumstances on tribal lands are different from those of urban areas with municipal landfills. All products (commercial and consumer) containing TCE will eventually be disposed in a landfill or other disposal site and, in the case of many tribal and rural communities, the disposal site may be in close proximity to residents, may be unlined, may be open access, and may include open burning as a management practice. All of these circumstances present multiple exposure pathways and routes for intake and uptake. In the section on ground water monitoring on page 88 of this draft risk evaluation, EPA states that “Studies clearly associated with releases from Superfund sites, improper disposal methods, and landfills were considered not to meet the PECO statement and excluded from data evaluation and extraction.” Leachate samples were also excluded from analysis because they were considered an “off-topic” media (page 94). EPA should revise this risk evaluation to include TCE releases from landfills, *including those that are characteristic of tribal communities.*

Trichloroethylene is considered hazardous waste under RCRA but many, if not most, tribal communities do not have practical access to Subtitle C landfills. For example, there is not a single Subtitle C landfill in the State of Alaska. Multiple products containing TCE, from both household and commercial use, are discarded legally at Subtitle D landfills and other landfills,

such as C&D landfills. Some products are discarded practically at such landfills due to lack of enforcement or disposal alternative. Many Subtitle D and other landfills may not have a double liner or leachate capture. And for the 229 Alaska tribes, Subtitle D landfills and any other landfill, such as monofills and C&D landfills, lack any liner or leachate capture, and the large majority have the additional potential exposure risks mentioned above.

Native Americans are more highly exposed to contaminants with environmental fate and transport than other populations, and in unique ways, because their lifeways revolve around environmental activities for dietary sustenance, socio-cultural activities, ceremonial and spiritual purposes, recreation, and general well-being. Tribal lifeways are not a choice and there is no alternative to them for the over 6.5 million Native Americans across the USA. Tribal lifeways can lead to chronic exposures to toxins in the environment, due to the much longer duration and higher frequency of exposures tribal people may experience, as well as the higher cumulative dose from multiple exposure pathways. As disposal is the main route contaminants enter the environment, it is unacceptable to exclude disposal, and the resulting exposures to toxic chemicals like TCE, from consideration.

EPA is mandated by TSCA to determine whether the disposal of toxic chemicals presents unreasonable risk to human health and/or the environment. NTTC strongly urges that environmental release from waste management sites, including transfer sites, C&D sites, materials recovery facilities, and Subtitle D landfills be evaluated with consideration of unlined facilities with resulting leachate subsurface flow, ponded water, direct surface water and snowmelt runoff, ambient emissions from uncovered disposal areas, and untreated waste burning emissions. A large portion of such sites have open public access, as well as proximate general populations, unprotected workers, and occupational bystanders. NTTC has in previous comment letters informed EPA in detail about the unique characteristics of disposal sites on tribal lands and in tribal communities and we are able and willing to provide extensive photographic and narrative evidence that exposure through disposal is very likely for tribal people.

2. Tribes as a potentially exposed subpopulation

Tribes must be considered as a sensitive subpopulation under TSCA. Tribes have unique lifeways that place them at different risk due to multiple exposure pathways not experienced by the general population. For example, these lifeways include differences in:

1. Diet, such as significantly higher consumption of fish and other aquatic life that is typically locally harvested;
2. Housing, which tends to be more often substandard, with older household furniture and products, to lack garages (resulting in product storage inside the home), and be associated with dirt yards and unpaved roads;

3. Worker safety protocols, which tend to be less stringently practiced due to multiple small businesses, self-employment, and do-it-yourself practices, and remote access locations unvisited by OSHA;
4. Water use for:
 - Drinking, which can be from untreated and unregulated small systems (less than 15 homes), including well water and surface haul water
 - Hygienic use, through daily steam baths
 - Ceremonial use through steam baths
 - Multiple artisanal activities (e.g. reed harvest, mouthing, weaving);
 - Subsistence activities (e.g. hunting, gathering)
 - Recreational activities (swimming in natural water)
 - Other lifeways.

For convenience, we include a graphic that depicts many of these exposures.

EPA's Science Advisory Committee on Chemicals, in its report on the HBCD and 1,4-dioxane draft risk evaluations, strongly agreed with NTTC that EPA must consider all exposure routes and give "special consideration to specific populations (e.g., tribal, arctic inhabitants, etc.) who depend on fish as a major source of food because of cultural considerations and provide some quantitative sense of how much extra risk exists for these populations. In considering special and susceptible population exposures, more consideration needs to be given to populations with specific preexisting conditions, such as metabolic disease and obesity, as well as to tribal, ethnic and other subpopulations that depend heavily on potentially contaminated foods, such as Native American subsistence fishers". Referencing the conceptual model above, the SACC



also recommended that “the context of the assessment would be improved by including a graphic similar to the one presented by the National Tribal Toxics Council at the public meeting, that illustrates exposure routes for potentially sensitive or highly exposed populations”. While we recognize that EPA identified consumers, bystanders, and high intensity users as potentially exposed, special consideration of tribal lifeways and the resulting multiple exposures must also be analyzed in order to determine the risks Native Americans face.

EPA also needs to analyze those potentially exposed or susceptible subpopulations that face greater exposure due to their proximity to conditions of use, particularly disposal. However, in the draft risk evaluation EPA did not identify these populations as potentially exposed or susceptible subpopulations and did not provide any analysis of whether those living in proximity to conditions of use like disposal are at a greater risk due to higher exposure. Many tribal communities live in close proximity to a disposal site or a transfer station. Three quarters of tribal communities in Alaska have residents living within 1 mile of unlined landfills that are open access and typically practice burning without emissions treatment as a volume reduction management technique, all in compliance with Subtitle D. Drinking water sources and primary diet sources for these close-set communities are also typically proximate because there are no roads to the communities. The multiple exposure scenarios associated with proximity to unlined disposal site releases to environmental media must be analyzed for both individual exposures and the cumulative exposures tribal members face from their customary and traditional tribal lifeways (inhalation, dermal, ingestion). If these exposures are not analyzed, then no determination can be made on the risks these vulnerable populations face. As part of

this analysis, EPA should identify all populations living near disposal and other waste management sites as potentially exposed or susceptible subpopulations. Groups living near National Priority List sites and proposed National Priority List sites should be included, as well.

3. Exposures Covered by Other Environmental Statutes

a) General Population Exposures

In this draft risk evaluation, EPA has excluded all general population risks from exposures due to releases of TCE to land, air, and water, based on the assumption that other statutes adequately address these exposures. On pages 35 of this risk evaluation, it is stated that:

“General population exposures to TCE may occur from industrial and/or commercial uses; industrial releases to air, water or land; and other conditions of use. As part of the problem formulation for TCE, EPA found those exposure pathways are covered under the jurisdiction of other environmental statutes, administered by EPA, which adequately assess and effectively manage those exposures, i.e., CAA, SDWA, CWA, and RCRA. EPA believes this TSCA risk evaluation should focus on those exposure pathways associated with TSCA conditions of use that are not subject to the regulatory regimes discussed above because those pathways are likely to represent the greatest areas of concern to EPA. Therefore, EPA did not evaluate hazards or exposures to the general population in this risk evaluation, and there is no risk determination for the general population”

Yet, no analyses or data have been presented to show that these other statutes are protective of the general population. According to ASTDR, TCE is present in drinking water throughout the USA. TCE has been detected in indoor air. By not determining the level of exposure and the risks the general population experiences, EPA cannot adequately manage these risks in the risk management phase of the TSCA risk assessment process.

An important concern with relying on other environmental statutes is that TSCA tasks EPA with specifically addressing human and environmental health risks, while statutes may have standards that are not health-based and are different from those under TSCA. TSCA section 6(b)(4)(A) states: “The Administrator shall conduct risk evaluations pursuant to this paragraph to determine whether a chemical substance presents an unreasonable risk of injury to health or the environment, without consideration of costs or other non-risk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation identified as relevant to the risk evaluation by the Administrator, under the conditions of use.” Many other statutes require EPA to in fact consider factors such as cost and feasibility when setting their standards. EPA is the agency that is mandated to administer TSCA and relying on other statutes that are presumably protective completely ignores significant media releases and the resulting exposure

scenarios, which is clearly not the intent of TSCA. Based on data from EPA's Toxics Release Inventory (TRI), facilities release nearly 2,000,000 lbs/yr of TRI to air, water, and land. By not considering these releases, EPA is effectively reducing this substantial amount of TCE released into the environment to zero.

Furthermore, NTTC would like to take this opportunity to point out that environmental statutes do not guarantee protection from exposures, particularly in the case of tribes, who may be disproportionately impacted. A non-exhaustive list of examples includes the 229 Tribes in Alaska that have landfills in compliance with RCRA, but that are unlined, use no cover material, allow open burning, with no monitoring, or leachate collection. Under the Safe Drinking Water Act and the Clean Water Act, multiple tribes use individual groundwater well systems that are not regulated or monitored and have members on remote systems that are not POTWs due to the system size. With TCE being one of the most frequently detected contaminants in groundwater, it is clear that these other statutes are not protective of tribal communities and their exposures and risks have to be evaluated under TSCA. Additionally, multiple tribes live in rural areas and use open barrels for burning. Burnboxes, which are open steel containers designed to accept an entire community wastestream, are employed in Alaska for waste disposal and allowed under a special rule of the Clean Air Act. Burning on the ground is also practiced as a locally authorized waste management practice for a substantial number of Alaska Tribes. Clearly, tribes experience exposures even where responsibility rests on other environmental statutes, and NTTC strongly urges EPA to comply with their statutory obligation to consider all exposures, particularly for susceptible and highly exposed populations, such as tribes. According to the EPA and ATSDR, the main exposure pathways for TCE are outdoor air, indoor air and vapor intrusion, groundwater and drinking water wells, food, and breastmilk and formula. No data or evidence is presented that other statutory regulations effectively manage these exposures.

NTTC has expressed concern at the paucity of data on tribal risks, as well as the observation that tribal people are absent from or underrepresented in EPA's risk evaluations and proposed actions. It is well documented in the scientific literature that Native Americans experience significant health disparities from the general population and the practice of leaving them out of any protections will only contribute to further health disparities. NTTC has in the past provided detailed information to EPA on the chronic exposures tribal people experience. In order to protect tribal communities, the unique tribal lifeways and exposures, including those from disposal of products containing toxic chemicals in open dumps that are unlined and that practice open burning of wastes, have to be considered by EPA.

b) Worker Exposure

In this draft risk evaluation, EPA has significantly underestimated occupational exposures by once again assuming proper use of effective PPE in most cases. No evidence supporting this assumption is presented. On page 31 of the draft risk evaluation, it is stated that: "For workers, EPA estimated risks using several occupational exposure scenarios, which varied assumptions regarding the expected use of personal protective equipment (PPE) for respiratory and dermal

exposures for workers directly handling trichloroethylene.” In the case of TCE, EPA found unreasonable risk to workers for all conditions of use considered. However, as in previous draft risk evaluations, the risk determination EPA makes is based on the assumption that workers will use effective PPE (both gloves and respirators) at most times when working TCE, which means that actual risks to workers are substantially underestimated. A risk analysis for workers without PPE also has to be included.

OSHA has also highlighted limitations with PPE use. For example, in 2016 OSHA informed EPA that respirators are the “least satisfactory approach to exposure control,” because in order for them “...to be effective, respirators must be individually selected, fitted and periodically refitted, conscientiously and properly worn, regularly maintained, and replaced as necessary. The absence of any one of these conditions can reduce or eliminate the protection the respirator provides.” Furthermore, 2018 was the 8th consecutive year violations of the respiratory protection standard were in the top 5 most common types of OSHA violations.

The SACC, in their report on 1,4-dioxane, expressed concern that, even if PPE use is assumed for larger, industrial facilities, smaller facilities are much less likely to require routine and effective use of PPE or to employ engineering controls, such as closed systems. Smaller businesses and facilities are the norm in Indian Country, including Alaska Native villages, and they are subject to OSHA exemptions to the Respiratory Protection Standard, as well as to reporting and inspection requirements. Self-employed workers are also exempt from many OSHA requirements and self-employment is common in tribal communities. For example, in rural Alaska non-hub communities, where the majority of Alaska’s federally recognized tribes live, OSHA will only provide assistance and compliance visits if three separate entities request them. Most of rural Alaska’s communities do not have three entities to which the workplace exposures discussed in the draft risk evaluation would be relevant. For accurate risk characterization of tribal members, NTTC would like to see a risk determination for workers and ONUs, both self-employed and in small businesses, that incorporates OSHA’s exemptions and practical exceptions. In these communities, take-home exposures are also very likely.

Another way EPA has underestimated the risk to workers in this draft risk evaluation is by not considering the combined risks from inhalation and dermal exposures, even though workers could easily experience exposures by both routes, over the same time period, and for multiple conditions of use. EPA states on pages 33-34 that:

“Exposures to trichloroethylene were evaluated by inhalation and dermal routes separately. Inhalation and dermal exposures are assumed to occur simultaneously for workers and consumers. EPA chose not to employ simple additivity of exposure pathways at this time within a condition of use because of the uncertainties present in the current exposure estimation procedures, which may lead to an underestimate or overestimate of the actual total exposure.”

Additionally, not only did EPA not combine exposures via inhalation and dermal pathways, EPA also failed to combine any exposures from multiple conditions of use. EPA looked at each

condition of use separately and never considered the possibility that the same individual might be exposed to TCE through multiple conditions of use. Furthermore, EPA has ignored all non-occupational baseline exposures workers experience by excluding all exposures via environmental releases to air, water, and land. NTTC believes that EPA cannot ignore these human health risks and they must be evaluated, even if EPA chooses to assume that other environmental statutes are protective and does not consider risks from environmental releases of TCE.

To accurately assess overall exposure to TCE, EPA should prepare an exposure assessment that examines aggregate exposure. Aggregate exposure is defined as “the combined exposures to an individual from a single chemical substance across multiple routes and across multiple pathways” (40 C.F.R. § 702.33). Such an exposure assessment should combine exposures from the inhalation and dermal pathways, including the baseline exposures mentioned above, under all conditions of use.

4. Risks from Aggregate and Cumulative Exposures

NTTC notes that to fulfill the intent of Congress, EPA must evaluate the true risk of a chemical in commerce, and to consider aggregate and cumulative exposures, and not just for workers. Assessment of risk should mirror the real world so that the public is truly protected by agency risk management decisions. For example, in tribal communities, a substantial number of residents have multiple jobs and live near their community facilities, including disposal facilities. A single person may be a landfill worker, an occupational bystander, a near-facility general population, as well as a consumer. They will likely derive their food and water, including untreated water, near-source. Such scenarios are the norm for landfill workers in the over two hundred Alaska tribal communities. The resulting multiple exposures should be considered in aggregate, and in cumulative. In fact, tribal peoples tend to reside on the lands of their ancestors for their entire lifetime. The connection to these lands is paramount to tribal peoples’ well-being and what it means to be a tribal person.

5. Legacy Use

On November 15, 2019, the Ninth Circuit Court of Appeals released its decision in the challenge to the TSCA risk evaluation and prioritization rules that EPA can no longer exclude “legacy” chemical uses from a risk evaluation, nor can it exclude any conditions of use from consideration”. It also affirmed that “TSCA’s definition of ‘conditions of use’ clearly includes uses and future disposals of chemicals”.

Legacy use of products containing TCE was not considered in this draft risk evaluation. In order to accurately address the risks TCE may pose to human health and the environment, environmental releases from unlined landfills containing it have to be evaluated. Not

considering such environmental releases and the risks they pose disproportionately affects tribes' exposures, in this case due to the unique disposal circumstances on tribal lands and in tribal communities, as described above and in previous comment letters to EPA. NTTC strongly urges EPA to consider the impacts of legacy use of TCE on tribal populations.

6. Systematic Review

NTTC notes that the criteria EPA has used for datasets are not conducive to the inclusion of reliable and valid tribal data. Tribes are experts for their own people, and when environmental sampling is involved, Tribes develop and follow approved Quality Assurance Plans that are typically approved by EPA, because EPA itself is a major funder of such efforts. NTTC urges EPA to include consideration of Tribal data that may be submitted by the Tribe that produced it. Where data is not available, modeling should be employed so that all significant Tribal exposures are captured. Contaminants end up in the environment where Tribes are highly exposed. Evaluation of these chemicals should then include tribal peoples' multiple unique exposures.

7. Closing Remarks

In conclusion, we look forward to the Agency's written response to these comments within 90 days. We again remind EPA that NTTC believes comment periods should be extended during the pandemic to allow tribes, communities, and organizations whose responding staff are pulled to other duties an adequate comment window. Should you or your staff have questions or comments regarding our letter, please contact myself, Dianne Barton, NTTC Chair, at (503) 731-1259 / bard@critfc.org or Fred Corey, NTTC Co-Chair, at (207) 764-7765 / fcorey@micmac-nsn.gov.

Sincerely,



Dianne C. Barton, Ph.D.
Chair, National Tribal Toxics Council