National Tribal Toxics Council

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Irina Myers
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RE: Response to Tribal Consultation, August 27, 2015, Notification of Consultation and Coordination on TSCA Work Plan Chemical Problem Formulation & Initial Assessment and Data Needs Assessment for Flame Retardants (FR) Clusters

Dear Ms. Myers,

Thank you for your continued support of the National Tribal Toxics Council's (NTTC) role in the Office of Pollution Prevention and Toxics (OPPT) programs on issues related to chemical safety, toxic chemicals, and pollution prevention. Among the key issues that the NTTC is focusing on are reducing tribal exposure to toxic chemicals in Indian Country.

The NTTC appreciates the opportunity to provide comments on the above-noted subject of Flame Retardants (FR) Clusters. Among the numerous concerns with flame retardant chemicals, the Council's priorities are the protection of tribal water resources, traditional subsistence foods, and tribal traditions. Also addressed in the attached document, are the NTTC's comments regarding the Toxic Substances Control Act (TSCA) Work Plan chemicals as identified in the following table with the corresponding docket numbers.

Chemical Cluster	Docket Number
Tetrabromobisphenol A	EPA—HQ—OPPT—2014-0730
Chlorinated Phosphate Esters	EPA—HQ—OPPT—2015-0068
Cyclic Aliphatic Bromides	EPA—HQ—OPPT—2015-0081
Brominated Phthalates	EPA—HQ—OPPT—2014-0491
EPA Notice of Consultation and Coordination, Enclosures, "Consultation Information," 08/27/2015, pp. 4.	

Sincerely,

Dianne C. Barton, Chair
National Tribal Toxics Council

Attachment

Note: The Members of the Council are offering their opinions on toxics issues and do not speak for individual tribes.

The following comments are provided in regards to all of the above referenced docket numbers.

CUMULATIVE RISK

- The risk assessments do not account for existing body burden suite of chemicals, and are not addressed in either the Human Health Risk Assessment guidelines nor the Cumulative Risk Guidelines listed on the EPA web sites. Tribal people are especially exposed to larger volumes of chemicals due to their traditional diets and their geographic locations in relation to manufacturing and pollutant deposition. Along with higher amounts of toxin exposure and bioaccumulation, there is greater risk of the suite of chemicals interacting and causing health effects not accounted for by single-chemical risk assessments. For instance, studies on PCB's, another type of flame retardant, showed their synergism with other bromine-based chemicals. "Chemicals with similar structure or particularly those containing bromine should be considered synergistic unless it has been proven that they are not." See Pellacani C., et al.

- NTTC continues to urge EPA to move beyond just cancer risk or only toxicity, and assess more concerning health effects levels of risk like endocrine disrupter chemicals (EDCs). These EDCs are particularly dangerous and not adequately assessed in the current risk scenario. Of the four clusters, EPA is considering only the TBPH/TBB cluster for endocrine health effects.

FISH CONSUMPTION

- Regarding the population scenario, the tribal population scenario is the most appropriate to use for risk assessments by EPA, because EPA's own rules indicate that they are to protect the population of highest risk. Additionally, it is a federal trust responsibility to tribes under the U.S. government's moral and legal obligations to American Indians and Alaska Natives. As identified in the problem formulation for the HBCD cluster, EPA must use the fish consumption rate of subsistence fishers at 142.5 grams per day in all four of the risk assessments to account for aggregate exposure of those who rely heavily on locally sourced fish.

- NTTC supports EPA's comments on the September 30, 2015 technical call that EPA will evaluate additive exposures, such as oral exposures including fish consumption, drinking water consumption, potential for dust consumption and mouthing in the flame retardant risk assessments. However, in such an evaluation of oral exposures, EPA must include the high-end exposure approach with fish consumption rates of subsistence fishers at 142.5g/d.

ADDITIONAL TRIBAL-SPECIFIC EXPOSURE ROUTES

- NTTC maintains that resource use is another important factor to the risk paradigm that EPA is overlooking. EPA must consider whether tribes use different resources that puts them at different risk(s) than the general consumer. For example, plants uptake the pollutants, tribal members harvest those plant resources for traditional foods and for traditional arts such as basketry, thus demonstrating multiple exposure pathways including ingestion, dermal absorption on the hands, and in some cases, dermal absorption in the mouth from splitting roots or softening materials.

ENVIRONMENTAL JUSTICE

- While NTTC recognizes that part of EPA's risk assessment process is collecting existing data on the chemicals in question, asking tribes to fill this data gap is unreasonable. EPA must provide funding before starting the process (at least more than one year prior) to request tribes gather

information. Specifically, sampling within tribal homes in high-risk areas for the four chemical clusters would provide valuable data to further more complete risk assessments accounting for high-risk, vulnerable tribal populations.

- Again, regarding fish consumption and the rate referenced above, in relation to population scenarios, the tribal population scenario is the most appropriate to use for risk assessments by EPA, because their rules indicate that they are to protect the population of highest risk. As identified in the problem formulation for the HBCD cluster, EPA must use fish consumption rates for subsistence fishers at 142.5 grams per day in aggregate exposure for those who rely heavily on locally sourced fish.

- It is imperative that EPA consider potential cumulative exposure—including multiple chemical exposure—in these risk assessments because it is an on-going void in implementing environmental justice policies. This is a significant problem that EPA is not considering cumulative exposure in the risk assessment process at this time. It is an environmental justice issue affecting tribes, who rely heavily on high volumes of fish and aquatic mammals. Additionally, a large percentage of American Indian and Alaska Native communities are at or below the poverty level. This translates to lower replacement cycles of furniture, toys, clothing etc. from those with higher toxicities to more recently manufactured items of lower toxicities. For example, although PCB is no longer manufactured, studies have detected it in Puget Sound tissue sample monitoring (West J., et al). EPA must also look at wastewater outside of the Toxics Release Inventory, which does not account for small local government facilities like unpermitted landfills, open dumps, and open dump and backyard burning. As the Council has previously discussed with EPA, the stovepiped processes of EPA fails in protecting tribes from exposures to chemical in commerce.

OTHER

- NTTC recognizes that in the U.S., the burden of proof of toxicity is on the consumer. This is not adequate for the tribal community, especially considering the high-level consumption by tribal members of wild and natural resources as well as the U.S. government's inability to provide safe water and sewer, and solid waste disposal on many Indian reservations and in many Alaska Native villages. NTTC reiterates past comments that the U.S. needs to apply the precautionary principle, not being reactionary. The proof of effects must be demonstrated before a chemical or cluster is approved for use; stop allowing the use chemicals up until it's proven that those chemicals don't have significant and cumulative negative health effects.

The following comments are provided in regards to the specifically referenced flame retardant cluster and its corresponding docket number.

Tetrabromobisphenol A (TBBPA), EPA—HQ—OPPT—2014-0730

- Regarding human health, NTTC supports EPA/OPPT's decision to assess further risks to human health through consumption of TBBPA in subsistence fishers (TBBPA PF, 09/15, pp. 9). However, NTTC considers it an environmental justice issue that EPA will only be considering aggregate exposures for: 1) those who live near two manufacturing facilities, and 2) those who do not live near such facilities. This specifically excludes tribal citizens, the majority of whom live on rural reservations and in rural, off-road communities throughout Alaska.

- EPA states in Table 2-7, #4 of the Problem Formulation that in disposal via incineration, TBBPA is likely destroyed, and therefore, EPA will not be including this exposure scenario. This is unacceptable because it does not take into account backyard open burning by which tribal citizens consume TBBPA, which is prevalent in underserved tribal communities on reservations in the U.S. and other rural lands, including over 180 off-road Alaska villages. These communities rarely have proper burn units and protocols to prevent residents' inhalation.

- The footnote "d" to Table 2-7 indicates that food other than fish is not assessed because it is the purview of other agencies. NTTC disagrees with this decision by EPA because it specifically excludes tribal citizens who consume large amounts of marine mammal tissue and fats in traditional foods including several species of whale and seal, walrus, and sea lion. It also disregards the traditional foods of migratory birds and their eggs. EPA needs to consider these subsistence food sources for which numerous data sources are available from research conduct in the U.S. and other arctic countries, such as Canada, Greenland and Norway. EPA is a member agency of the White House Cabinet; it is capable of collaborating with its sister agencies that would assess food other than fish, as well as gathering data from such agencies.

Chlorinated Phosphate Esters (CPE), EPA—HQ—OPPT—2015-0068

- NTTC appreciates EPA's inclusion of fish consumption by subsistence fishers and their children when evaluating exposure pathways. We specifically highlight EPA's commitment to account for the high-end fish consumption of subsistence fishers—including pregnant women, children and adults—the majority of whom are the tribal population.

- NTTC agrees with the need to evaluate the hazard endpoints that go beyond cancer risk and include target organ effects, reproductive and developmental effects, and neurotoxicity. (CPE Problem Formulation, 08/15, pp. 32 and 34)

- NTTC disagrees with EPA's decision to exclude from further assessment the exposures of birds, terrestrial wildlife, or sediment-dwelling organisms as well as food other than fish. These exclusions fail to account for the subsistence diets of tribal populations, which include these species and other resources that consume these species. In the CPE Problem Formulation, EPA noted that [m]onitoring studies have reported the detection of TCEP in aquatic species, mammalian species, herring gull eggs and pine needles. …these materials are likely bioavailable and could be observed in a biological matrix." (CPE PF, pp. 22) The referenced studies showed detection of CPEs in the breast milk of women in Sweden, Asia, Japan, the Philippines, and Vietnam. These data demonstrate the need for consideration of the natural environment and food resources of tribal populations. Aquatic species, mammalian species and gull eggs are all natural resources upon which tribal populations subsist.

Cyclic Aliphatic Bromides (HBCD), EPA—HQ—OPPT—2015-0081

- During problem formulation of HBCD, EPA identified inhalation, dermal and lifetime exposure assessments as data gaps that add uncertainty to EPA's risk assessment of HBCD.

- NTTC continues to maintain that EPA must include tribal populations in its plans to "conduct additional risk analysis on potential worker, general population, consumer and environmental exposures under the TSCA Existing Chemicals Program." (HBCD PF, 08/15, pp. 11)

- EPA noted that HBCD is a persistent pollutant in environmental media, expected to occur primarily as particulates, which may undergo long range transport, and is highly

bioaccumulative with measured fish bioconcentraction factor values of greater than 18,000. (HBCD PF, 08/15, pp. 22) Given this, EPA must consider the impact of consumption by tribal citizens who live in geographic ranges where the majority of particulates are deposited, who rely on traditional foods of fish and marine mammals which bioaccumulate toxins via fish and algae consumption.

- Further, on page 24 of the HBCD Problem Formulation, EPA referenced data of HBCD measured in the blubber and liver of various marine mammals; both of these tissues are a staple, consumed in large quantities, in Arctic tribal citizens' diets. Then, regarding bioaccumulation, EPA referenced studies that note the widespread detection and high levels of HBCD in aquatic and terrestrial organisms: invertebrates, fish, birds and their eggs, and marine mammals, all of which are traditional food resources of tribes. (HBCD PF, 08/15, pp. 76)

- Finally, HBCD was detected in breast milk, adipose tissue, blood, and both maternal and umbilical serum. (HBCD PF, 08/15, pp. 85) NTTC insists that EPA account for tribal populations, especially sensitive infant and child populations, in its risk assessment of HBCD.

Brominated Phthalates (TBPH/TBB), EPA—HQ—OPPT—2014-0491

- NTTC supports the EPA's decision for comprehensive studies for many endpoints for all cluster members of the TBB/TBPH cluster. NTTC also supports the EPA's statement of need for comprehensive studies on bioaccumulation of all brominated phthalate cluster (BPC) chemicals. Considering persistence and toxicity data on other brominated flame retardants, bioaccumulation and persistence data are extremely necessary. With the potential for acute and chronic toxicity, reproductive toxicity, and negative health effects on fetal development and endocrine disruption, it is alarming that the U.S. allows continued use of BPC chemicals.

- NTTC maintains its position that EPA must also consider chemical body burden, in addition to testing all cluster members individually and quantifying major degradation products. With suggested potential of long-term exposure of TBB/TBPH to wildlife, EPA stated that "chronic testing is recommended to address those organisms likely exposed in order to characterize potential population level effects"; and that suggested potential of "exposure and uptake by organisms present in water bodies including aquatic plants thus, hazard and bioaccumulation characterization is needed for these organisms." (TBB/TBPH PF and DNA, 08/158, pp. 39) Therefore, NTTC reiterates that EPA must then also consider the effect of subsistence foods and traditional natural resources on the tribal population. This includes high-level consumption of marine mammals, such as whale, seal, walrus, and sea lion; fish and shellfish, such as salmon, herring, halibut, crab, and mussels; avian species such as duck, geese, and gull; and wildlife such as moose, deer, caribou, and elk.

REFERENCES

West J., Lanksbury J., O'Neill S., Marshall, A., 2011, *Persistent Bioaccumulative and Toxic Contaminants in Pelagic Marine Fish Species from Puget Sound*, Washington Department of Fish and Wildlife, Washington Department of Ecology, Publication number 11-10-003.

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EPA (US Environmental Protection Agency), 2015, *TSCA Work Plan Chemical Problem Formulation and Data Needs Assessment: Brominated Phthalates Cluster Flame Retardants*, Office of Chemical Safety and Pollution Prevention, EPA Document # 740-Q1-4004.

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