

**Inland Empire Paper Company  
NPDES Permit No. WA-000082-5  
Permit Condition S6.B.**

**Polychlorinated Biphenyls  
Best Management Practices Plan Update  
2018 Report**

**November 1, 2018**

## **TABLE OF CONTENTS**

1.0	INTRODUCTION.....	1
2.0	CROSS-FUNCTIONAL TEAM FOR BMP DEVELOPMENT.....	1
3.0	CURRENT AND PAST SOURCE IDENTIFICATION AND WASTEWATER REDUCTION EFFORTS.....	1
4.0	POTENTIAL BMP'S & STATUS UPDATE.....	3
5.0	BMP PLAN MONITORING RESULTS.....	11
6.0	ADDITIONAL PCB TESTING RESULTS NOT REQUIRED UNDER CONDITION S3.....	12

## **PCB Best Management Practices Plan Update**

### **1.0 INTRODUCTION**

Permit Condition S6.B., PCB Best Management Practices (BMP) Plan, of Inland Empire Paper Company's (IEP) National Pollutant Discharge Elimination System (NPDES) Permit No. WA-000082-5 includes a requirement to update the PCB BMP plan annually. Direct language from the permit regarding this condition is as follows:

*Thereafter, the Permittee shall submit an annual report to the Department by June 1 of every year [see note below]. The annual report shall include: a) all BMP plan monitoring results for the year; b) a summary of effectiveness of all BMPs implemented to meet the BMP plan goal; and c) any updates to the BMP plan.*

Note: the June 1 date for submittal under permit condition S6.B. is incorrect and was based on the premise that IEP's permit would be finalized by June 1, 2011. The Summary of Permit Report Submittals on page 4 of the final permit indicates the correct date as November 1, 2016 since IEP's permit was actually finalized on November 1, 2011.

### **2.0 CROSS-FUNCTIONAL TEAM FOR BMP DEVELOPMENT**

IEP's Engineering and Production staff all play significant roles in the development and implementation of this BMP plan based on their respective disciplines, responsibilities and departments. Key individuals contributing to this effort include:

Doug Krapas – Environmental Manager and Team Leader  
David Newton – Technical Superintendent  
David Demers – Process Technician  
Kevin Davis – Production Manager  
T. J. Eixenberger – Plant Engineer  
Luke Huntley – Paper Machine Superintendent  
Cody Murdock – Pulp Mill Superintendent

### **3.0 CURRENT AND PAST SOURCE IDENTIFICATION AND WASTEWATER REDUCTION EFFORTS**

This report details the results of IEP's investigation into feasible PCB BMP's based on its PCB Source ID Study and the feasibility of PCB reduction opportunities. It should be noted that all PCB containing equipment was removed from IEP several decades ago. The IEP facility was deemed a PCB free facility through a multi-media inspection performed by the Washington State Department of Ecology and EPA in the early 1990's.

It is important to note that IEP does not produce or generate PCBs. There is overwhelming evidence that IEP receives PCBs into its facility as a consequence of federal regulations that allow for new PCBs to be manufactured and distributed through commerce. The Toxics Substance Control Act (TSCA) allows for the inadvertent generation of PCBs in products up

to 50 ppm. IEP receives inadvertently generated PCBs allowable under TSCA in the inks and pigments used in printing on paper that it recycles at its facility. Further discussion of the TSCA concern and actions being taken are discussed in greater detail under Section 4.1 of this report.

IEP recently conducted a source identification study as part of NPDES permit condition S6. The study identified recycled paper as the primary source of PCB's within the facility and wastewater treatment system. A potential mitigation approach is discussed in subsequent sections.

IEP also implemented the following significant water conservation, reclamation, reuse and wastewater reduction efforts in response to more stringent water quality based effluent limits (WQBELs imposed by the Spokane River and Lake Spokane Dissolved Oxygen TMDL:

- a. **Conustrenner (2004)** – The Conustrenner is a compact highly efficient self-cleaning fractionation filter. Approximately 1-1.4 MGD of primary treated water is diverted to the Conustrenner for reclamation and reuse in the pulp mill processes, greatly reducing freshwater needs and volumetric loading to the water treatment system.
- b. **Pump Seals (2005 to 2007)** – Flow limiting devices were installed on mechanical seal water lines for numerous pumps around the mill. These devices greatly reduced freshwater consumption to the process streams resulting in a substantial decrease in the volumetric loading to the water treatment system.
- c. **Retention Aid Carrier Water (2012)** - IEP switched from using fresh water to reclaimed process water for its retention aid carrier water. This modification reduced treated effluent flow by approximately 100 gallons/minute. Just a note: We intended to go back to this design, but are currently running on fresh water due to white water quality concerns.
- d. **Disk Filter Shower Water (2014)** – IEP's #1 Disk Filter showers were changed from fresh water to reclaimed process water. This modification reduced treated effluent flow by approximately 200 gallons/minute.
- e. **PM5 Vacuum Roll Seal (2015)** – IEP installed a new style of lubrication seal strip on the paper machine vacuum roll that reduced fresh water consumption and discharge by 10 million gallons/year. IEP intends to install similar systems on other rolls in the paper machine in the near future.

The above projects have resulted in a significant decrease to treated process water flows, but unfortunately have increased the technological difficulty in removing and reducing PCBs due to cross-contamination of all water loops within the mill.

#### **4.0 POTENTIAL BMP'S**

IEP recently conducted a PCB source identification study in compliance with condition S6.A. of its National Pollutant Discharge Elimination System (NPDES) permit number WA-000082-6. The intent of the source identification study was to aid in the development of Best Management Practices (BMPs) for addressing Polychlorinated Biphenyls (PCBs); Condition S6.B. Direct language from the NPDES permit relating to the PCB BMP is as follows:

*The goal of the BMP plan is to maintain or lower effluent concentrations of PCBs through source control, pollution prevention and/or wastewater reduction opportunities.*

The source identification study implicated the use of recycled paper within the facility as the primary source of PCB's to its wastewater treatment system. Unfortunately one stated method from the NPDES permit (wastewater reductions) has had the opposite effect within the facility and has compounded the PCB problem within process streams due to cross-contamination; further details of this issue are explored in the PCB source identification study.

IEP foresees three options for reduction of PCBs in its final effluent:

- Toxic Substances Control Act (TSCA) Reform
- Tertiary Treatment
- Elimination of paper recycling

#### **4.1 TSCA REFORM**

The PCB problem for water quality compliance derives from the federal allowance for PCB concentrations up to 50 parts per million (ppm) in manufactured products. This allowance under EPA's Toxic Substance Control Act (TSCA) results in the presence of PCBs in a wide range of commercial and consumer products, including caulking, soaps, pigments, inks, dyes and paints. PCBs present in commercial and consumer products enter the environment through many pathways, including hatchery fish, stormwater, pulp and paper mills that process recycled paper products, and every municipal wastewater treatment plant.

In the Pacific Northwest, EPA is requiring public and private facilities to meet very stringent PCB water quality criteria placing dischargers in the impossible position of trying to treat the presence of PCBs that result from EPA's TSCA regulations. Even EPA appears to acknowledge that there is no way for dischargers to technically or economically achieve this burden.

IEP in conjunction with many different industrial, municipal, environmental, tribal and legislative entities are pursuing TSCA reform. Mitigating the PCB issue at the source in dyes, inks, and other products will relieve the significant technological, environmental, and economic burdens on wastewater treatment facilities throughout the country. In order to provide the most environmental benefits it is necessary to hold the producers of PCB containing products to the same type of standards as the wastewater treatment facilities that are saddled with the challenge of removing PCBs. To address this issue IEP is pursuing the following efforts to address TSCA:

The following amendment to the TSCA regulations is needed to address this source of PCBs:

1. Amend Section 6 of TSCA, 15 USC 2605(e)(2)(B) to read: After January 1, 201X no person may manufacture, process, or distribute in commerce or use any polychlorinated biphenyls in any detectable amount previously authorized under authorization of the Administrator by rule.

If repeal of the TSCA exception is not acceptable, then the following amendment of the Clean Water Act should be adopted to protect those downstream from harm resulting from the TSCA allowance:

1. Amend Section 303(b) of the CWA, 33 USC 1313(b) to add a new subsection: (3) The Administrator shall not propose or approve new or revised water quality standards for states or tribes for polychlorinated biphenyls as long as the Administrator by rule allows for the manufacture, process or distribution of polychlorinated biphenyls in detectable amounts under the Toxics Substance Control Act.
2. Amend Section 304(a) of the CWA, 33 USC 1314(a) to add a new subsection: (6) The Administrator shall not propose new or revised criteria for water quality standards for polychlorinated biphenyls as long as the Administrator by rule allows for the manufacture, process or distribution of polychlorinated biphenyls in detectable amounts under the Toxics Substance Control Act.

### **2018 Status Update:**

Since EPA has refused to address the TSCA allowance for inadvertently generated PCBs, IEP has taken a leadership role independently and through the Spokane River Regional Toxics Task Force (SRRTTF) to find alternative solutions in addressing this concern. IEP has been working with various color pigment, paint and ink trade organizations to develop collaborative solutions in lowering concentrations in their manufactured products or offer non-chlorinated alternatives to the PCB containing products currently used in commerce. In addition to these efforts, IEP is the Project Manager for the SRRTTF TSCA workgroup tasked with finding technical, legal and regulatory solutions to the federally allowable inadvertent generation of PCBs in consumer products. The above combined efforts have resulted in the following successes and/or progress in driving solutions to this concern:

1. **Yellow Road Paint Pilot:**

Members of the TSCA workgroup worked with the American Coatings Association (ACA) to eliminate the use of diarylide yellow pigments in road paints in WA State. In 2018, the Washington State Department of Transportation (WSDOT) adopted a procurement specification that excludes the use of known PCB containing yellow road paint processes. Municipalities with a nexus to the Spokane River also followed suit in adopting similar ordinances. WA State's Department of Enterprise Services (DES) used WSDOT's master contract as a pilot to implement the new PCB Purchasing Policy for WA State (RCW 39.26.280-290).

2. **Printing Inks Pilot (Packaging/Newsprint):**

Similar to Task #1 above, the TSCA workgroup is continuing its work with the Color Pigment Manufacturers Association (CPMA) and others towards the development of non-chlorinated

pigment based inks for use in the publishing of newspaper, magazines, advertisements and packaging. This scope of work may include running trials with select publishers to assess the characteristics of alternative non-chlorinated products.

TSCA workgroup members are also working with representatives from the printing and packaging industries to raise awareness of the inadvertent PCB containing inks concern. Suppliers such as HP & Apple have modified their purchasing and product specifications to 0.1 ppm, several orders of magnitude below the TSCA allowance of 50 ppm. The updated HP Standard 011 General Specification for the Environment has been published (<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04932490>) and Apple also adopted a Regulated Substances Specification in 2016 with a non-detect threshold set at < 0.1 ppm (<https://www.apple.com/supplier-responsibility/pdf/Apple-Regulated-Substance-Specification.pdf>).

3. **Investigate Technical, Legal and Policy Solutions:**

TSCA workgroup members continue to investigate the Technical, Legal and Policy Solutions document (Appendix D) to determine what, if any, may be worth pursuing. This includes ranking the solution list according to feasibility, resources and timing, then pursuing any feasible options.

4. **PCB Congener and Aroclor Risk Assessment:**

The SRRTTF submitted a letter to EPA Regional Administrator Chris Hladick on May 9, 2018 (Appendix E) requesting an update to toxicity testing on PCB-11 supposedly started in 2015. In response, EPA Regional Administrator Hladick provided a letter of response to the SRRTTF on September 24, 2018 (Appendix F). In this letter, EPA reported that the National Toxicology Program at the National Institute of Environmental Health Sciences is actually evaluating toxicity of PCB congeners 11, 95, 126, 153 and Aroclors 1016 and 1254. While no date has been provided for completion of this work, it remains encouraging that EPA is taking steps to evaluate the effects of certain congeners associated with inadvertently generated PCBs along with other congeners and Aroclors of interest.

5. **Workshop:**

The TSCA workgroup is developing plans for a future stakeholder workshop that includes participation by business, industry, and regulators to discuss and develop solutions to pigment related TSCA issues, including working with industry (HP, CPMA, ACA, etc.) to investigate inks and dyes alternatives, investigate various elements of the Solutions Document, etc. This workshop is tentatively planned for the spring or summer of 2019.

**2017 Status Update:**

On August 1, 2016, Ecology adopted revisions to Water Quality Standards for Surface Waters of the State of Washington and sent it to the federal Environmental Protection Agency (EPA) for review. On November 15, 2016, EPA took action to approve in part, and disapprove in part, the human health criteria submitted by Washington. In lieu of approving WA's special provision for PCB's that maintained EPA's 1999 National Toxics Rule (NTR) criteria (40CFR131.36) of 170 part per quadrillion (ppq), EPA imposed more stringent criteria equating to 7.0 ppq for WA State. It is apparent by this action that EPA has no intention of resolving the discrepancy that exists between the TSCA allowance for inadvertent PCBs, and in fact has created a more untenable situation by driving the two standards even further apart. With the weight of evidence displayed by EPA's actions over

the past several years, the opportunity for TSCA Reform as a means for reducing PCBs in IEP's final effluent is not a viable option and will no longer be a pursuit action in this Best Management Practices Plan Update.

### **2016 Status Update:**

On June 22, 2016, the Toxic Substances Control Act (TSCA) reform bill H.R. 2576 was signed by President Obama and entered into force. The bill expands the U.S. Environmental Protection Agency's ("EPA") ability to regulate chemicals, requiring it to evaluate their safety against new standards. The bill also requires EPA to adopt new testing procedures and compels it to assess the risks associated with high priority chemicals prior to certain predetermined deadlines. IEP and other entities lobbied congressional representatives to include provisions to address the inadvertent PCB allowance, but unfortunately were once again denied, so no provisions to address this element of TSCA are included.

IEP also worked with the Spokane River Regional Toxics Task Force (SRRTTF) to encourage EPA to address the TSCA regulatory paradox. The SRRTTF submitted a letter to EPA on October 23, 2013 (see Appendix A), requesting "that EPA ultimately eliminate the provisions under TSCA that allows for the continued manufacturing of products to contain inadvertently produced PCBs in order to ensure that our watershed can achieve State and Tribal water quality standards required under the Clean Water Act." Additionally, the Task Force requested increased enforcement of the existing TSCA regulations regarding excluded manufacturing processes and excluded PCB products, as defined in 40 C.F.R. § 761.3 and further described in Subpart J of 40 C.F.R. § 761. EPA provided a response to the SRRTTF letter on February 24, 2015. EPA does not intend to amend the TSCA regulations to address inadvertently generated PCBs on the grounds of "both policy and scientific challenges." Additionally, EPA declined to initiate enforcement of the regulation, citing numerous challenges including "the nature of the regulations, the EPA's ability to identify possible non-compliers, the resources necessary to implement an effective enforcement initiative, and the potential of any such initiative to effectively reduce PCB levels to meet water quality standards."

On October 14, 2016, members of the U.S. Senate submitted a letter to the U.S. Government Accountability Office (GAO) requesting the GAO's assessment of regulations governing inadvertent PCBs (see Appendix C). The GAO provided a prompt response stating that they were unable to address this concern due to resource limitations.

It is evident from the above efforts that EPA and the Federal government have no intentions of providing front-end solutions to the TSCA and CWA inequities, or is there any intention of enforcing existing TSCA regulations. IEP along with other interested parties will continue petitioning for front end solutions to correct this allowance for new PCBs that are entering the environment.

### **4.2 TERTIARY TREATMENT**

In an effort to attain compliance with the Spokane River DO TMDL, IEP is currently developing a new biological treatment technology that utilizes moving bed biofilm reactors (MBBR) to remove nutrients from process waters. The system has two main components; a biological based reactor and an ultra-filtration membrane system. It is believed that the combination of the two components will result in reductions to PCBs due to biological absorption in the MBBRs and complete suspended solids removal by the membrane system.



Additional testing of the system will be on-going in the fourth quarter of 2017. During this time the PCB removal capabilities of the system will be evaluated. A high level of PCB removal is anticipated based on data collected by the Spokane County Wastewater Treatment Facility (SCWTF). SCWTF utilizes a membrane system as a final treatment step prior to discharge. This same approach is used in the biological process being developed by IEP.

Tertiary treatment being developed for the compliance with the DO TMDL is currently the default PCB BMP.

### **2018 Status Update**

IEP has solicited and received a firm bid proposal from WesTech for full-scale tertiary treatment utilizing MBBR and membrane technologies. IEP has begun engineering and anticipates installation of the equipment in 2019 with commissioning and start-up scheduled for 2020. The technology selection of two MBBRs in series followed by WesTech/Toray's ultra-filtration membranes has provided the best performance of all tertiary treatment systems modeled at IEP to date. This selection of tertiary treatment technology combined with IEP's Delta Elimination Plan has the best opportunity to provide reasonable assurance to comply with the final WQBELs. After trialing over twenty five advanced treatment technologies, IEP believes that this also represents the best available control technology for the removal of PCBs.

### **2017 Status Update:**

Based on the results from simultaneous operations of the WesTech membrane system and the AlgEvolve/Koch membrane in 2015-2016, it was decided to discontinue testing around the AlgEvolve/Koch system and focus tertiary trials around the WesTech system. Membrane operations alone will not achieve compliance with the Spokane River DO TMDL, so in 2017, IEP installed two series tertiary MBBR tanks. These tanks were fed by the secondary clarifier and the MBBR effluent was filtered through the WesTech membrane system prior to discharge.

Two rounds of PCB analyses were performed on the MBBR/WesTech system. The first round was completed with composite samples collected on June 15 following the installation and startup of the MBBRs and WesTech membrane system. The second round of composite samples was pulled on July 18 following a month of steady-state operations. IEP completed the PCB analysis using EPA Method 1668C with AXYS Analytical Services. Samples were collected at the following locations: Feed to the MBBRs (Feed) and discharge from the WesTech system (Permeate). The table below summarizes the results:

	Round 1 - Start Up		Round 2 - Operations	
	Feed	Permeate	Feed	Permeate
	pg/L	pg/L	pg/L	pg/L
Total Monochloro Biphenyls	103	84.4	131	97.4
Total Dichloro Biphenyls	715	729	814	459
Total Trichloro Biphenyls	595	295	551	263
Total Tetrachloro Biphenyls	407	199	335	116
Total Pentachloro Biphenyls	55.1	75.1	67.2	45.5
Total Hexachloro Biphenyls	53	49.1	18	16.6
Total Heptachloro Biphenyls	19.3	3.07	0.71	U
Total Octachloro Biphenyls	5.55	3.26	U	U
Total Nonachloro Biphenyls	U	2.84	2.6	1.85
Total Dechloro Biphenyls	U	2.71	1.56	U
<b>Total PCBs</b>	<b>1,950</b>	<b>1,440</b>	<b>1,920</b>	<b>999</b>

U = not detected at Reporting Limit

All values are uncorrected values

The data above indicates the importance of biological assimilation of PCBs prior to filtration. The “startup” sample was pulled after initial operations commenced, a time when the membrane was fully functional, but the MBBRs were not fully seeded with biology. The system was able to remove approximately 26% of the PCBs from the feed stream. The combination of a fully functional biological system with membranes was able to remove approximately 48% of the PCBs from the feed stream; therefore showing that the biology was able to remove an additional 29% of PCBs from the system. However, as with the AlgEvolve/Koch trials, the final permeate is still not remotely compliant with Washington’s new WQS of 7.0 pg/L.

#### 4.3 ELIMINATION OF PAPER RECYCLING

The PCB source ID study identified recycled paper as the primary source of PCBs to the facility. Inks and dyes used for printing contain concentrations of PCBs up to 50 mg/L or approximately 7.14 billion times more than WA State’s new water quality standard of 7.0 pg/L. This creates a significant burden on the facility by requiring in excess of 9-Log removal of PCBs. This level of treatment cannot be achieved through any state-of-the-art technologies currently available, as is evidenced by the numerous trials conducted by IEP and others.

There are significant environmental benefits from recycling paper that include conservation of natural resources, energy savings, reductions in greenhouse gas emissions and reductions in used landfill space. To achieve the water quality standard for PCBs within the effluent at the facility it would be necessary to completely remove any and all PCBs that enter the facility. Recent experiences at Ponderay Newsprint Company (PNC) suggest that even small

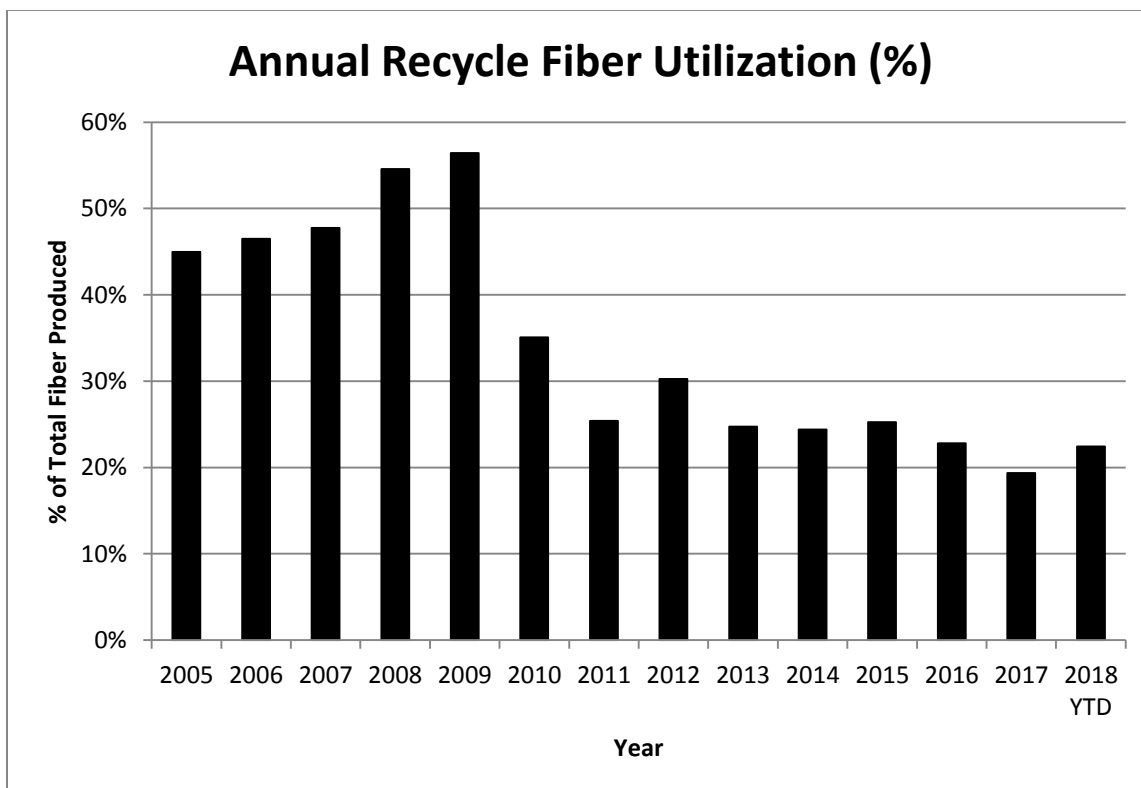
amounts of recycle (< 0.6% of total pulp) can contribute a significant amount of PCBs to the effluent system. It was not until PNC completely ceased recycling that PCB concentrations fell to levels that can be considered background concentrations (~80 pg/L); Additional details from PNC may be found in the PCB Source ID study, Permit Condition S6.A.

The overall effect of eliminating recycling would likely have significant consequences for IEP. This action may result in a net negative environmental impact due to the elimination of all the beneficial aspects of recycling. IEP would cease to have the capability of providing a finished paper product with recycled content and would lose this market share. IEP installed its integrated recycling facility in 1991 due to environmental directives and paradoxically it is now environmental regulations that now threaten the future of recycling at IEP.

Because of the significant impact to IEP's business, elimination of recycling will be the last BMP to be implemented

### 2018 Status Update:

There are many driving forces that have resulted in a reduction to the amount of paper recycled as a raw material source at IEP. These include a shortage in raw material supply, increased cost of recycled paper, decrease in quality, increased cost of disposal, safety concerns, and of course the environmental/regulatory factors associated with PCBs. Since 1991 with the installation of IEP's integrated recycling facility, IEP has consistently averaged around 60% recycled paper consumption in its raw material supply to manufacture its finished paper products. Over the past eight (8) years the consumption of paper has steadily declined to approximately 20%:



Domestic processing of waste paper has become even more important due to China's recent refusal to accept recyclable materials from the U.S. under the recently adopted Operation Green Fence campaign<sup>1</sup>. Recyclables have been one of the largest exported materials to China; however the quality of the recyclables has decreased due to contaminants from U.S. single stream recycling programs. These contaminants cannot be recycled and Chinese manufacturers were getting stuck with a big expense to sort out and dispose of non-recyclables in Chinese landfills. Essentially, the Chinese, who were the largest consumer of recyclable materials in the world ceased taking in these materials from the U.S. This has caused a glut of waste paper and other recyclables being produced in the U.S. without a destination, much of which ultimately ends up in landfills.

IEP has been approached and encouraged by numerous U.S. municipalities to increase its consumption of domestic waste paper. However, the threat of PCB regulations has put IEP in an untenable position. While IEP embraces the many advantages of paper recycling, the company ultimately may not be able to continue this beneficial practice due to stringent water quality standards for PCBs:

<b>Advantages for Continuing Recycling</b>	<b>Disadvantages for Eliminating Recycling</b>
Can continue to offer recycled paper products (CA and other State Laws)	Lose market share of recycled paper products
Continue to be a U.S. destination for post-consumer paper waste	Waste paper sent to China, Landfill or Incineration
Provides raw material supply flexibility	Complete dependency on virgin wood fiber
Process up to 350 tpd of waste paper	Will need to source up to an additional 350 tpd of wood fiber
Remove and destroy +90% of PCBs received in inks	100% of PCBs may find a pathway into the environment
Uses 80 to 85% less energy to produce a ton of fiber	Significant increase in energy consumption
Low carbon footprint	Could result in a carbon footprint increase up to 56%
Continue leadership role in finding solutions to TSCA Paradox	No incentive to pursue TSCA solutions
Continue participation and leadership role in SRRTTF	No incentive to continue participation in SRRTTF
Offer a domestic destination for U.S. municipalities to dispose of waste paper due to China's Green Fence	Waste paper will not be recycled due to a lack of domestic sources such as IEP to process

It is difficult to estimate the magnitude of PCB reductions in IEP's effluent resulting from this decrease in recycle content, since there is no comparative and reliable data using low level detection methods prior to this permit cycle when IEP was operating at much higher recycle content. However, considering that IEP has identified recycled paper as the primary contributor of PCBs to its facility, it is intuitive that this percentage of recycled paper reduction equates to similar reductions of PCBs in IEP's final effluent. IEP's state-of-the-art processes remove and destroy the majority of PCBs coming into its facility. It is expected that a significant amount of any remaining PCBs in IEP's effluent will be removed and destroyed with the installation of advanced tertiary treatment systems required to comply

<sup>1</sup> <https://www.theguardian.com/sustainable-business/china-green-fence-global-recycling-innovation>

with the Lake Spokane and Spokane River Dissolved Oxygen TMDL. Additionally, IEP has supplanted approximately 50% of its recycled paper supply with shredded office paper (SOP) that contains less ink and is perhaps lower in PCB containing inks and pigments, likely resulting in a lower overall PCB contribution to IEP's effluent system.

## 5.0 BMP PLAN MONITORING RESULTS

The following chart provides the results of PCB quarterly data collected since 2015:

	Reporting Year 2015				Reporting Year 2016				Reporting Year 2017				Reporting Year 2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2/17/2015	4/24/2015	8/28/2015	12/28/2015	1/11/2016	6/6/2016	8/29/2016	12/2/2016	3/14/2017	6/15/2017	7/18/2017	12/5/2017	3/9/2018	5/9/2018	7/26/2018	
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	
Total Monochloro Biphenyls	40	23.6	80.2	66.8	76.9	96.5	79.1	19.7	78.4	64	75.9	54.2	28.1	7.31	40.3	
Total Dichloro Biphenyls	456	626	781	1060	1130	1150	1220	554	862	475	431	759	406	35.4	442	
Total Trichloro Biphenyls	668	1120	1310	1340	1360	2020	2710	1070	1040	439	335	1060	734	318	896	
Total Tetrachloro Biphenyls	437	562	815	517	549	1130	1950	564	490	305	226	664	675	209	536	
Total Pentachloro Biphenyls	85.7	95.8	187	89.1	93.6	203	478	92.2	84.1	66	75.1	163	260	59.9	93	
Total Hexachloro Biphenyls	41.4	20.7	24.6	21	17.1	28.9	111	23.2	10.2	15.5	24.9	41.6	54	15.3	11	
Total Heptachloro Biphenyls	32	U	6.42	1.58	U	13.9	29.2	1.34	3.53	3.95	1.86	4.16	9.53	2.67	1.37	
Total Octachloro Biphenyls	U	1.14	3.53	2.14	U	23.9	2.29	1.03	U	1.81	3.37	2.04	5.16	0.86	U	
Total Nonachloro Biphenyls	U	U	U	U	U	21.5	2.99	0.72	U	U	U	U	U	U	U	
Total Dechloro Biphenyls	U	1.36	1.13	U	U	5.22	U	U	U	U	U	1.24	U	U	U	
<b>Total PCBs</b>	<b>1,760</b>	<b>2,450</b>	<b>3,210</b>	<b>3,000</b>	<b>3,170</b>	<b>4,690</b>	<b>6,590</b>	<b>2,330</b>	<b>2,570</b>	<b>1,370</b>	<b>1,170</b>	<b>2,750</b>	<b>2,170</b>	<b>708</b>	<b>2,020</b>	

U = not detected at Reporting Limit  
All values are uncorrected values

It is difficult to ascertain any correlations from the above data as there are many variables associated with IEP's operations including over 55 different grades of paper production, variable recycle rates, variable recycle and SOP ratios, etc. In addition, IEP has reduced its secondary effluent flow rate which results in an increase in concentrations of contaminants. The most significant variation occurs due to the reuse of treated wastewater back into nearly all of IEP's processes that results in cross-contamination of IEP's entire water loops (see the PCB Source ID Study for further discussion).

However, what is evident from a closer look at the congener data is the significance of inadvertent PCBs generated from the use in inks and pigments on the contribution of PCBs to IEP's facility. The chart below provides an analysis of congeners associated specifically with yellow dyes (Hansa and Monoazo):

**PCB Congeners Associated with Hansa and Monoazo Pigments**

	Reporting Year 2015				Reporting Year 2016				Reporting Year 2017				Reporting Year 2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2/17/2015	4/24/2015	8/28/2015	12/28/2015	1/11/2016	6/6/2016	8/29/2016	12/2/2016	3/14/2017	6/15/2017	7/18/2017	12/5/2017	3/9/2018	5/9/2018	7/26/2018	
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	
PCB-1	20	14.4	41.4	30.7	33.5	34.5	37.8	9.07	35.6	29.9	22.8	31.4	16.2	2.1	20.3	
PCB-2	10.3	9.22	16.4	20.4	24.9	37.5	18.7	5.84	24.5	23.8	36.5	22.8	11.9	1.75	9.12	
PCB-3	9.65	9.77	22.4	15.7	18.5	24.5	22.6	4.81	18.3	10.3	16.6	15.8	17	3.46	10.9	
PCB-4	69	93.4	125	178	154	148	264	86.4	158	53.1	30.2	90.4	40	41.8	73.2	
PCB-6	21.7	34.2	46.9	57.8	53.8	48.7	80.1	26.2	41.3	13.8	15.1	32.5	16.8	U	29.2	
PCB-8	101	192	225	264	272	254	432	141	183	64.2	48.3	167	82.7	6.05	138	
PCB-11	217	213	240	470	544	551	274	214	353	288	282	378	218	31.3	136	
PCB-12 + 13	U	8.84	16.7	20.2	14.1	11.1	12.2	6.41	15.6	8.53	13.7	7.71	5.41	U	6.92	
PCB-52	55.1	79.5	105	66.1	68.1	136	234	69.2	62.9	43.5	27.1	80	81.6	34.1	64.4	
PCB-90 + 101 + 113	29.3	18.3	26	14.3	16.5	33.6	69.7	13.4	14.9	14.8	14.2	23.6	39.8	11	15.7	
Subtotal of Yellow Congeners	533.1	672.6	864.8	1,137.2	1,199.4	1,278.9	1,445.1	576.3	907.1	549.9	506.5	849.2	529.4	131.6	503.7	
Total PCBs	1,760	2,450	3,210	3,000	3,170	4,690	6,590	2,330	2,570	1,370	1,170	2,750	2,170	708	2,020	
% PCBs Assoc. w/ Yellow	30.29%	27.45%	26.94%	37.91%	37.84%	27.27%	21.93%	24.74%	35.30%	40.14%	43.29%	30.88%	24.40%	18.58%	24.94%	

U = not detected at Reporting Limit

All values are uncorrected values

PCB congeners associated with yellow dyes account for 20 to over 40% of all PCBs in IEP's final effluent. The balance of PCB congeners detected in IEP's effluent have fingerprints associated with the myriad of other pigments known to include inadvertently generated PCBs (i.e.: phthalocyanin blues and greens, titanium dioxide, etc.).

## **6.0 ADDITIONAL PCB TESTING RESULTS NOT REQUIRED UNDER CONDITION S3**

Additional PCB testing results used in support of the BMP may be found in IEP's PCB source identification study report.

**APPENDIX A**  
**Letter from SRRTTF to EPA**  
**Regarding Implementation of TSCA to Address PCBs**  
**October 23, 2013**



**SPOKANE RIVER**  
REGIONAL TOXICS TASK FORCECOLLABORATION  INNOVATION  PROGRESS

Jim Jones  
Assistant Administrator  
Office of Chemical Safety and Pollution Prevention (OCSPP)  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
Mail Code: 7101M  
Washington, DC 20460

October 23, 2013

Cynthia Giles  
Assistant Administrator  
Office of Enforcement and Compliance Assurance (OECA)  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
Mail Code: 2201A  
Washington, DC 20460

RE: *Implementation of TSCA to Address PCBs*

Dear Mr. Jones and Ms. Giles:

The Spokane River Regional Toxics Task Force (Task Force) appreciates the EPA officials who met with us on June 17, 2013 to discuss the challenges we face in our watershed. EPA's regulatory role is an important factor in our ability to achieve the water quality standards for polychlorinated biphenyl (PCBs). It is evident from our analysis that a significant contribution of PCBs to the Spokane River watershed originate from sources currently allowable by Federal regulations under the Toxic Substances Control Act (TSCA). The Spokane River, as well as other rivers in the U.S. with Clean Water Act 303(d) listings for PCBs, will likely never meet Clean Water Act required state and tribal water quality standards as long as this EPA sanctioned allowance remains in place.

This is a national issue and not just isolated to the Spokane River watershed. There are almost 5,600 water bodies in the United States that are listed for PCBs<sup>1</sup> and more than 1,000 fish advisories for PCBs in 40 states<sup>2</sup>. PCB-contaminated fish are the primary source of PCBs for people in the United States<sup>3</sup>. PCBs continue to pose a real threat to human health and the environment<sup>4</sup>.

The current TSCA allowance for inadvertently generated PCB of 50 ppm (with additional allowances for mono- and di-chlorobiphenyls) is not protective of the environment. An example of the ubiquitous distribution of PCBs resulting from TSCA are the findings that PCB-11, a congener specific to diaryl pigments, has been found in the waters of California, Delaware, Oregon, New York, New Jersey, Texas,

<sup>1</sup> [http://iaspub.epa.gov/waters10/attains\\_nation\\_cy.control](http://iaspub.epa.gov/waters10/attains_nation_cy.control)

<sup>2</sup> <http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/>

<sup>3</sup> <http://www.atsdr.cdc.gov/csem/pcb/docs/pcb.pdf>

<sup>4</sup> <http://srtrtf.org/wp-content/uploads/2012/09/ECOS-Resolution-12-9-PCBs-in-products-Approved-8-28-12.pdf>



and Washington<sup>5</sup>. In addition to this, a recent survey by the Japanese Ministry of Economy, Trade, and Industry shows that imported pigments can contain PCB in levels exceeding the EPA limits of 25 ppm average/50 ppm maximum for inadvertently generated PCB. In one case, the level of PCB in a yellow pigment product was as high as 2000 ppm<sup>6</sup>.

EPA's TSCA enforcement strategy<sup>7</sup> focuses on legacy facilities, but also supports actions that are of national benefit. The Task Force strongly requests that EPA implement a TSCA compliance monitoring program that addresses the manufacture in and import into the United States of products with inadvertently produced PCBs, such as pigments. Specifically, the Task Force requests increased enforcement of the existing TSCA regulations regarding *excluded manufacturing processes* and *excluded PCB products*, as defined in 40 C.F.R. § 761.3 and further described in Subpart J of 40 C.F.R. § 761.

More importantly, the Task Force requests that EPA ultimately eliminate the provisions under TSCA that allows for the continued manufacturing of products to contain inadvertently produced PCBs in order to ensure that our watershed can achieve State and Tribal water quality standards required under the Clean Water Act. Lowering the allowable limit under TSCA is not a viable solution when EPA's approved State and Tribal EPA's water quality standards are nearly one billion times lower than the current allowance. Furthermore, this allowance has shifted the cost from those permitted to manufacture these products to our municipal ratepayers and businesses that are ultimately burdened with cleaning up someone else's source of pollution. Our only opportunity for success in achieving stringent water quality standards and providing economic fairness is dependent upon the elimination of these new sources that continue to enter our environment.

We look forward to EPA's response regarding the above and what actions will be taken to resolve the inequity in Federal regulations that are currently not protective of the environment. You may send a response c/o Adriane Borgias, Washington State Department of Ecology, 4601 N. Monroe St. Spokane, WA 99205-1295; [ABOR461@ecy.wa.gov](mailto:ABOR461@ecy.wa.gov); (509) 329-3515.

Sincerely,  
Spokane River Regional Toxics Task Force

cc

Wendy Cleland-Hamnett, Director, EPA Office of Pollution Prevention and Toxics (OPPT)

Susan Shinkman, Director, EPA Office of Civil Enforcement (OCE)

Nancy Stoner, Acting Assistant Administrator, EPA Office of Water

Dennis McLerran, EPA Region 10 Regional Administrator

Ed Kowalski, Director, Office of Compliance and Enforcement, EPA Region 10

Lauris Davies, Associate Director, Office of Compliance and Enforcement, EPA Region 10

Dan Opalski, Director, Office of Water and Watersheds, EPA Region 10

Kate Kelly, Office of Air, Waste and Toxics, EPA Region 10

<sup>5</sup> Jia Guo in <http://www.p2.org/wp-content/uploads/june-27-pcbs-webinar.pdf>

<sup>6</sup> Christie in <http://www.p2.org/wp-content/uploads/june-27-pcbs-webinar.pdf>

<sup>7</sup> USEPA, *Compliance Monitoring Strategy for the Toxic Substances Control Act (TSCA)*, Office of Enforcement and Compliance Assurance, September 2011.

bcc

Mary Lou Soscia, EPA Region 10, Portland, Oregon

Tom Eaton, EPA Region 10, Lacey, Washington

**Mailing Addresses**

Wendy Cleland-Hamnett  
Director  
Office of Pollution Prevention and Toxics (OPPT)  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
*Mail Code: 7401M*  
Washington, DC 20460  
Susan Shinkman  
Director  
Office of Civil Enforcement (OCE)  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
*Mail Code: 2241A*  
Washington, DC 20460

Dennis McLerran  
Region 10 Regional Administrator  
USEPA REGION 10  
1200 Sixth Avenue  
*Mail Code: RA-140*  
Seattle, WA 98101

Ed Kowalski  
Director  
Office of Compliance and Enforcement  
USEPA REGION 10  
1200 Sixth Avenue  
*Mail Code: OCE-184*  
Seattle, WA 98101

Lauris Davies  
Associate Director  
Office of Compliance and Enforcement  
USEPA REGION 10  
1200 Sixth Avenue  
*Mail Code: OCE-081*  
Seattle, WA 98101

Dan Opalski  
Director  
Office of Water  
USEPA REGION 10  
1200 Sixth Avenue  
*Mail Code: OWW - 13*  
Seattle, WA 98101

Kate Kelly  
Office of Air, Waste and Toxics  
USEPA REGION 10  
1200 Sixth Avenue  
*Mail Code: AWT-128*  
Seattle, WA 98101

Mary Lou Soscia  
USEPA Region 10 - Oregon Operations Office  
805 SW Broadway  
Suite 500  
*Mail Code: OOO*  
Portland, OR 97205

Tom Eaton  
USEPA R-10 Washington Operations Office  
300 Desmond Dr., SE, Suite 102  
*Mail Code: WOO*  
Lacey, WA 98503

**APPENDIX B**  
**Response Letter from EPA to SRRTTF**  
**Regarding Implementation of TSCA to Address PCBs**  
**February 24, 2015**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10**1200 Sixth Avenue, Suite 900  
Seattle, WA 98101-3140OFFICE OF THE REGIONAL  
ADMINISTRATOR

February 24, 2015

Ms. Adriane Borgias  
Spokane River Regional Toxics Task Force  
Washington State Department of Ecology  
4601 North Monroe Street  
Spokane, Washington 99205-1295

Dear Ms. Borgias:

Thank you for your October 23, 2013, letter on behalf of the Spokane River Regional Toxic Task Force to Jim Jones, Assistant Administrator for the Environmental Protection Agency's Office of Chemical Safety and Pollution Prevention, and Cynthia Giles, Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance, regarding the water quality challenges presented by polychlorinated biphenyls. I apologize for the delay in my response on behalf of the Agency, but your letter raises some particularly challenging issues for us. Specifically, your letter notes the potential problems from the release of inadvertently generated PCBs from products such as pigments, and requests that the EPA take two actions to address the problems. First, you ask that the EPA initiate enforcement of the existing prohibition on the imports of inadvertently generated PCBs at concentrations at or above 50 parts per million and, second, that EPA revise its regulations to eliminate all manufacture or import of inadvertently generated PCBs.

The EPA agrees with the Task Force on the importance of reducing PCBs in the environment and the need to look at all potential sources. The EPA participates on the Task Force and supports the collaborative approach being taken to reduce PCB sources in advance of completing a TMDL. Having approved the Spokane Tribe's water quality standards, the EPA understands the issues of concern associated with very low levels of PCBs and the challenges of meeting those standards.

Your request that the EPA initiate enforcement of the regulations regarding inadvertently generated PCBs raises very complex issues. Excluded Manufacturing Processes and the resulting products are excluded from the otherwise applicable statutory bans as long as certain requirements are met, including reporting those processes and products to the EPA and maintaining concentrations under specified limits. Given your request, we examined the potential for increased compliance and enforcement activity to address possible violations of these regulations and found a number of significant challenges. These challenges include the nature of the regulations, the EPA's ability to identify possible non-compliers, the resources necessary to implement an effective enforcement initiative, and the potential of any such initiative to effectively reduce PCB levels to meet water quality standards. Thus, an enforcement initiative targeted specifically at the regulations for inadvertently generated PCBs is not a promising approach.

Revising current regulations to reduce inadvertently generated PCBs presents both policy and scientific challenges. Before proposing more stringent regulations on the inadvertent generation of PCBs in pigments, the EPA would seek to further understand the complexities and contributions of not only PCB-11, but also other congeners that may be present in the Spokane River. At present, there are not sufficient data to assess such PCB congeners. However, in a step toward addressing this deficiency, the EPA has requested that toxicity testing on PCB-11, a congener identified to be incorporated into yellow

pigments, be conducted through the National Toxicology Program at the National Institute of Environmental Health Sciences.

Excluded Manufacturing Processes and associated products may generate or contain a variety of inadvertently generated PCB congeners other than PCB-11. There are Toxicity Equivalence Factors (TEFs) established for the dioxin-like congeners, but, prior to revising TSCA regulations or the EPA's recommended water quality criteria for PCBs, the EPA would want to rely on additional toxicity information for many of the non-dioxin-like individual congeners. The aggregation of PCB congeners may in some instances be problematic for risk assessment because the toxicity of different PCB congeners varies and a fixed water quality concentration for total PCBs may not adequately represent the variable toxicity of the various congeners actually present in a particular water body. While the EPA is not proposing to undertake a comprehensive analysis of the remaining PCB congeners, we are examining the characterization of PCBs in water bodies. As stated above, characterizing individual PCB congeners' contribution to risk presents challenges. Therefore, the aggregation of all PCBs in the EPA's recommended water quality criteria for PCBs (i.e., expressed as total PCBs) is one topic we are discussing.

We note that states have taken the initiative to assess toxicity of specific chemicals in the past. One example is the toxicity criteria program managed by California's Office of Environmental Health Hazard Assessment. This process may be a reasonable approach that Washington can take to address the allowable amounts of specific PCB congeners generated inadvertently.

As you know, the EPA intends to propose to restrict and/or eliminate many of the remaining authorized uses of higher-concentration liquid PCBs. These remaining uses are the largest reservoir of commercial mixtures (Aroclors) that contain the dioxin-like PCBs for which there have been health concerns for decades. While these proposed changes will not address the inadvertently generated non-dioxin-like PCBs identified in your letter, the EPA believes this effort will help to reduce potential exposure and risk from remaining dioxin-like PCB uses.

One potentially promising strategy to address PCBs inadvertently produced in products is Green Chemistry. The EPA has provided funding to Ecology to establish a Green Chemistry Center and is a member of the Advisory Board for the Center. The Green Chemistry Center plans to host a workshop later this year on PCBs inadvertently produced in inks and pigments, perhaps leading to improvements in the production and use of PCB-free inks and pigments.

I understand that, having not heard back from the EPA in so long, you recently requested a meeting with the EPA senior managers to discuss these issues. If you still would like to meet after you and the other members of the Task Force have had a chance to review this response, I would be happy to assist in getting the meeting organized. Please feel free to contact me or have your staff contact Tom Eaton, Director of our Washington Operations Office at (360) 753-8086 or by email at [eaton.thomas@epa.gov](mailto:eaton.thomas@epa.gov) if you still wish to proceed with the meeting.

Thank you again for your letter, and again, I apologize for the delay. I look forward to continuing our work together and protecting human health and the environment.

Sincerely,



Dennis J. McLerran  
Regional Administrator

cc: Wendy Cleland-Hamnett, Director, OPPT  
Susan Shinkman, Director, OCE  
Ken Kopocis, Deputy Assistant Administrator, OW  
Ed Kowalski, Director, OCE, Region 10  
Lauris Davies, Associate Director, OCE, Region 10  
Dan Opalski, Director, OWW, Region 10  
Kate Kelly, Director, AWT, Region 10



**APPENDIX C**  
**Letter from U.S. Senate to U.S. Government Accountability Office**  
**Requesting GAO's Assessment of Regulations Governing Inadvertent PCBs**  
**October 14, 2016**

United States Senate  
WASHINGTON, DC 20510

October 14, 2016

The Honorable Gene L. Dodaro  
Comptroller General of the United States  
U.S. Government Accountability Office  
441 G St., N.W.  
Washington, D.C. 20548

Dear Comptroller General Dodaro:

Because Congress believed that polychlorinated biphenyls (PCBs) posed a significant risk to public health and the environment, section 6(e) of the Toxic Substances Control Act (TSCA) prohibited the manufacture, processing, distribution in commerce, or use of PCBs other than in a totally enclosed manner after January 1, 1978. The U.S. Environmental Protection Agency (EPA) has promulgated rules to interpret this and authorize exceptions, including certain levels of inadvertently generated PCBs. PCBs are considered persistent, bio-accumulative, toxic substances, which are particularly concerning because small amounts in the environment can accumulate in organisms, adding up to levels associated with human health effects. As such, we believe the time has come for the Government Accountability Office (GAO) to review the effectiveness of the EPA's regulations governing the inadvertent generation of PCBs.

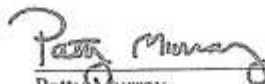
In 1984, the EPA promulgated a rule (40 CFR 761) to allow the inadvertent generation of PCBs at levels that the agency determined would not present an unreasonable risk of injury to human health or the environment. Under the rule, PCBs in products are generally allowed at levels below 50 parts per million, with additional requirements governing limitation on the release of PCBs into air or water. Manufacturers are also required to report to the EPA on any products with more than two parts per million PCBs. During rule development, the EPA estimated 100,000 pounds of inadvertently-generated PCBs are manufactured in the U.S. annually, produced a list of 200 processes that may inadvertently generate PCBs, and narrowed that list to 70 processes likely to do so. That list does not cover all the processes capable of creating inadvertent PCBs, as demonstrated by the EPA's civil penalties levied against a titanium dioxide manufacturing facility for TSCA violations. Titanium dioxide purification inadvertently creates PCBs, yet is not on the EPA's list of processes likely to do so. Given the gaps of the EPA's regulations on inadvertently generated PCBs, we request that GAO assess the following:

- What manufacturing processes inadvertently generate PCBs and have those processes changed since 1984?
- What percentage of products containing PCBs are manufactured domestically and what percentage are imported products?
- Can these products be produced with no inadvertently generated PCBs or lower concentrations of PCBs?

- What is the fate of inadvertently generated PCBs, including their presence in environmental media such as water, air, and biota?
- Which PCB congeners are inadvertently produced by which processes? Of the congeners produced and released, what is the significance of the impact to human health and the environment?
- Which inadvertently generated PCBs are the most significant in regard to management and achievement of water quality standards?

The results of your assessment will help the federal government, Congress, and states determine the necessity of updating regulations governing PCBs in order to better protect human health and the environment. Thank you for your assistance in ensuring regulators have the information they need to be effective. If you have questions about this request, please contact Anna Sperling on Sen. Murray's staff at 202-224-2621.

Sincerely,

  
Patty Murray  
United States Senator

  
Maria Cantwell  
United States Senator

**APPENDIX D**  
**Technical, Legal and Policy TSCA Solutions**

■ Technical:

- Develop alternative (non-chlorinated) products
- Develop products w/reduced levels of PCBs
- Eliminate Phthalocyanine dyes and replace with non-PCB alternative products
- Establish new threshold for Diarylide yellow dyes at 1 ppm – CPMA Domestic
- Develop new end-of-pipe treatment for PCB abatement
- Perform risk assessment of all 209 congeners

■ Regulatory/Policy/Legal:

- Eliminate TSCA allowance for inadvertent PCB products
- General phase-out of TSCA allowance (level playing field, 1 ppm)
- Encourage End-Users to use lower or non-PCB containing products (Publishers, Printers, Packaging, State DOT's, etc.)
- Incentivize competitive marketing advantage with use of non-PCB containing products
- Regulate only the 12 Dioxin like PCBs
- Do not regulate lower congener PCBs (Europe)
- Provide NPDES permit offsets for inadvertent PCBs
- Provide NPDES Permit exclusion for inadvertent PCBs
- Streamline approval/cost for new chemical products
- Federal (Government Accountability Office) or State Bills to address above
- Petition EPA to develop "Voluntary Procedures for Recycling Paper" similar to "Polychlorinated Biphenyls: Recycling Plastics from Shredder Residue, Voluntary Procedures for Recycling Plastics from Shredder Residue"  
(<https://www.regulations.gov/document?D=EPA-HQ-OPPT-2012-0902-0049>)

■ Convene Stakeholder Task Force to vet & offer solutions:

- Regulatory, Technical, Legal and Policy

**APPENDIX E**  
**SRRTTF Letter to EPA dated May 9, 2018**

SPOKANE RIVER  
REGIONAL TOXICS TASK FORCECOLLABORATION  INNOVATION  PROGRESS

May 9, 2018

Chris Hladick  
Regional Administrator  
EPA Region 10  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101

Dear Administrator Hladick;

The Spokane River Regional Toxics Task Force (Task Force) would like to thank you for taking time to attend our meeting of March 28<sup>th</sup> and for listening to the concerns of Task Force members regarding control of polychlorinated biphenyls (PCBs) in the Spokane River watershed. As you know, the Task Force is comprised of diverse stakeholders representing municipal, industrial, environmental, conservation, and regulatory communities who have worked together since 2012 to identify and reduce sources of PCBs in the Spokane River. It is evident from our analysis that a significant contribution of PCBs to the Spokane River watershed originate from sources currently allowed under Federal Toxics Substance Control Act (TSCA) (40 CFR § 761). This letter summarizes the collective concerns of our various member groups and serves as the 'issue letter' you requested.

## Background:

In November of 2016, the EPA published revised Water Quality Standards for Washington State<sup>1</sup> that reduced the state standard for total PCBs from 170 parts per quadrillion (ppq) to 7 ppq. This new standard was found to be protective of populations that consume fish in our waterways. Yet the Environmental Protection Agency (EPA) authorizes a nominal 50 parts per million (ppm) use allowance for inadvertently generated PCBs in products under TSCA regulations. The TSCA allowance is seven billion times higher than our state water quality standard.

## Our Issues:

Water quality regulations focus on managing PCBs at end-of-pipe. However, no end-of-pipe solutions currently exist to meet the new water quality standard and TSCA allows continued manufacture of PCBs at levels that are billions of times higher than the water quality standards. As you know, municipalities and their ratepayers, already burdened with removing PCBs that are not created by them, are now held to even stricter treatment standards. Many industries (including Task Force member, Inland Empire Paper) do not produce PCBs in their manufacturing processes, however, they are unable to meet water quality standards due to their 'sustainable' recycling practices using TSCA approved materials.

<sup>1</sup> <https://www.gpo.gov/fdsys/pkg/FR-2016-11-28/pdf/2016-28424.pdf>

## SPOKANE RIVER REGIONAL TOXICS TASK FORCE



COLLABORATION INNOVATION PROGRESS

Municipalities in the Spokane watershed are currently installing the next level of wastewater treatment and are subject to the most stringent nutrient regulations in the country. We are unable to meet the new water quality standard for PCBs with state-of-the-art treatment. Furthermore, we are finding that lower weight PCB congeners are very difficult to remove in our state-of-the-art treatment processes. These lighter weight PCBs are legally being "inadvertently generated" in the production of pigments, printed materials and other products under TSCA.

State regulators are challenged as well. Under the revision to the state of Washington's Water Quality Standard, potentially every waterbody in the State of Washington will fail to meet the 7 ppq limit for PCB. This situation is not unique to Washington. EPA's ATTAINS database<sup>2</sup> documents the national magnitude of this problem. The Spokane River is included in the more than 81,000 miles of rivers and streams nationwide that are listed for PCB. To date, not one water body in the country has been able to successfully meet the water quality standards for PCBs.

We must eliminate PCBs at the point of generation if we are to be successful in achieving these stringent water quality standards and provide economic fairness to all communities. Consistently lowering the allowable limits of PCBs in waterbodies, but maintaining their level of generation in manufacturing processes, makes it nearly impossible for communities to meet their Clean Water Act obligations.

### What can EPA Do?

1. EPA should address the discrepancy between the allowable concentrations of PCBs in products and the regulated levels once those products reach our waterways by:
  - Initiating rulemaking to eliminate or lower the allowable level of inadvertently produced PCBs to less than 50 ppm.
  - Providing effective oversight and enforcement on the import of materials containing high levels of PCBs<sup>3</sup>.
  - Collaborating with stakeholders to continue to promote substitutes for products that contain inadvertently produced PCBs.
2. EPA should provide an update on the status of the toxicity testing on PCB 11 that EPA requested be conducted through the National Toxicology Program at the National Institute of Environmental Sciences per EPA's letter to the Task Force dated February 24, 2015<sup>4</sup>.
3. EPA should provide assistance identifying what current products contain PCBs, and the concentration of specific congeners present in those products. If EPA maintains a

<sup>2</sup> [https://ofmpub.epa.gov/tmdl/attains\\_index.home](https://ofmpub.epa.gov/tmdl/attains_index.home)

<sup>3</sup> Ministry of Economy, Trade and Industry (METI), Japan, *Compiled results of reanalysis of the presence of polychlorinated biphenyls (PCBs) as byproducts in organic pigments*, May 2013.

<sup>4</sup> [http://srrttf.org/wp-content/uploads/2015/02/Spokane-Task-Force\\_PCBs\\_Borgias-ltr.pdf](http://srrttf.org/wp-content/uploads/2015/02/Spokane-Task-Force_PCBs_Borgias-ltr.pdf)

SPOKANE RIVER  
REGIONAL TOXICS TASK FORCECOLLABORATION  INNOVATION  PROGRESS

database of this information, please provide the Task Force with instructions to access the information.

The Task Force thanks you for your interest in our community and our River. Since its inception the Task Force has used an inclusive approach to engage diverse interests and solve difficult problems. We look forward to working with you, your staff at Region 10 and EPA Office of Pollution Prevention and Toxics (OPPT) to implement positive change.

If you have any questions or require clarification, please contact Adriane Borgias with the Washington state Department of Ecology: [abor461@ecy.wa.gov](mailto:abor461@ecy.wa.gov) or 509-329-3515.

Respectfully Submitted,

The Spokane River Regional Toxics Task Force

Cc:

Maia Bellon, Director, WA Dept. of Ecology

Heather Bartlett, Water Quality Program Manager, WA Dept. of Ecology

Charlotte Bertrand, Acting Principal Deputy Assistant Administrator, USEPA Office of Chemical Safety & Pollution Prevention

Adriane Borgias, Water Quality Manager, Eastern Region, WA Dept. of Ecology

Erin Chancellor, Counsel to the Administrator, USEPA

Lucy Edmondson, Director, Washington Operations Office, USEPA

Karen Swetland-Johnson, Environmental Engineer, Office of Land & Emergency Management, USEPA

Jeffery Morris, Director, Office of Pollution Prevention & Toxics, USEPA

Grant Pfeifer, Eastern Regional Director, WA Dept. of Ecology

City of Coeur d'Alene • City of Spokane • Idaho Department of Environmental Quality • Inland Empire Paper Company • Kaiser Aluminum • Kootenai Environmental Alliance • Lake Spokane Association • Liberty Lake Sewer and Water District • Spokane County • Spokane Regional Health District • Spokane Riverkeeper • The Lands Council • US Environmental Protection Agency • WA State Department of Health • WA State Department of Ecology • WA State Department of Fish and Wildlife

## **APPENDIX F**



**Letter from EPA to SRRTTF dated September 24, 2018**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue, Suite 155  
Seattle, WA 98101-3123

OFFICE OF THE REGIONAL  
ADMINISTRATOR

SEP 24 2018

RECEIVED

SEP 25 2018

Department of Ecology  
Eastern Washington Office

Ms. Adriane Borgias  
Spokane River Regional Toxics Task Force  
Washington State Department of Ecology  
4601 North Monroe Street  
Spokane, Washington 99205-1295

Dear Ms. Borgias:

Thank you for the May 9, 2018, letter on behalf of the Spokane River Regional Toxics Task Force. I appreciated the chance to attend the March Task Force meeting and to learn about some of your accomplishments, as well as about concerns members have regarding meeting the human health-based water quality standard for polychlorinated biphenyls (PCBs). The Task Force is a national model for how a diverse stakeholder group of dischargers, environmental groups, and public agencies can collaborate to develop a plan to meet environmental goals, and I commend this important work.

The EPA recognizes and appreciates the challenges you face in meeting the water quality standard for PCBs. As you know, on August 3, 2018, EPA Assistant Administrator for Water, David Ross, announced that EPA would reconsider its November 2016 actions on Washington's human health water quality criteria. Should EPA decide to conduct a rulemaking to amend any part of the federal rule, the Agency would provide an opportunity for public notice and comment.

Regarding concerns raised in your letter about regulatory consistency between the Toxic Substances Control Act (TSCA) and the Clean Water Act (CWA), the EPA agrees that actions to reduce PCBs need to include source reduction and technological measures, as well as enforcement. One of the challenges that EPA faces in approaching these issues is that TSCA requires the Agency to consider costs when developing a regulatory standard, and the CWA does not. For EPA to consider additional rulemaking under TSCA, the Agency must first make a finding that existing concentrations of inadvertently generated PCBs present an unreasonable risk to health or the environment and that any newly proposed levels would not. EPA currently has health assessment information for just 12 of 209 PCB congeners. EPA is working to develop additional data, as highlighted below:

- The National Toxicology Program (NTP) is evaluating PCB 11 for potential toxicity with emphasis on the similarities and differences between PCB 11 and other PCB congeners. The study includes the following PCB congeners:
  - PCB 126, a PCB with known "dioxin-like" activity;
  - PCB 153, a PCB that is persistent but does not cause effects like dioxin;
  - PCB 95, a PCB with neurotoxic activity;
  - Aroclor 1254 and Aroclor 1016, two commercial mixtures that were used heavily in the past, and which contain mixtures of "dioxin-like" and "non-dioxin-like" PCB congeners.
- The NTP is also evaluating the effects of PCB 11 in a human liver cell line measuring cell viability and changes in RNA expression.

These studies will indicate whether PCB 11 has activity similar with other PCB congeners tested and/or to the Aroclor mixtures, and will help us better understand the nature of and relative importance of the hazards posed by PCB 11.

Separately, EPA Region 10 leads a national workgroup focusing on inadvertently generated PCBs that has:

- Developed an inventory of available research on inadvertently generated PCBs (and shared with the Task Force's green chemistry workgroup);
- Secured funding for a limited number of product tests –
  - Any products with PCB concentrations above 100 ppb will undergo further evaluation to determine if PCBs are emitted from the product, and if so, at what rate and concentration.
  - One product will also undergo analysis to evaluate the PCBs that migrate into settled dust on the product.

As far as we know, this will be the first data generated on consumer products that demonstrates whether PCBs are emitted from consumer products into the air or migrate into settled dust. Results may allow for future evaluation of additional pathways of exposure, and support further study of the toxicity of inadvertent congeners. When available, my team will share the results of these tests with the Task Force. I also welcome your suggestions for additional research that would be most helpful to the Task Force.

Regarding help to identify products that contain PCBs, and help in identifying and promoting substitute products, EPA does not maintain this kind of a national database or website. However, in addition to sharing the results of product testing as noted above, the EPA will continue to look for ways to collaborate with stakeholders to identify substitutes. I am encouraged by public agencies and companies which use their purchasing power to drive down PCB concentrations in products. Examples such as the state of Washington Department of Transportation's decision earlier this year to prohibit use of diarylide yellows in its master contract for maintenance paint, and Hewlett Packard's recent announcement of a new tighter standard (0.1 ppm) inadvertent PCBs in specs for suppliers are both very promising.

Thank you again for taking time to communicate your concerns and interests. If you have any questions or would like to discuss these issues further, please feel free to contact me, or Lucy Edmondson on my staff at [edmondson.lucy@epa.gov](mailto:edmondson.lucy@epa.gov) or (360) 753-9082. I look forward to continuing our work together to protect human health and the environment.

Sincerely,



Chris Hladick  
Regional Administrator

cc: Ms. Maia Bellon, Director, Washington Department of Ecology  
Ms. Heather Bartlett, Water Quality Program Manager, Washington Department of Ecology  
Mr. Grant Pfeifer, Eastern Regional Director, Washington Department of Ecology

Mr. Jeffrey Morris, Director, US EPA Office of Pollution Prevention and Toxics  
Ms. Charlotte Bertrand, Acting Principal Deputy Administrator, US EPA Office of Chemical  
Safety and Pollution  
Mr. Tim Hamlin, Director, US EPA R10, Office of Air and Waste  
Mr. Dan Opalski, Director, US EPA R10, Office of Water and Watersheds  
Ms. Lucy Edmondson, Director, US EPA R10, Washington Operations Office

RECEIVED  
2014  
Department of Ecology  
Eastern Washington Office