Company Background

- Manufacturing paper products in Millwood since 1911
- Most modern newsprint mill in the world
- Newest paper machine in North America
Company Background

- Integrated recycling facility installed in 1991
  - Recycle ONP, magazines and office waste
  - Paper produced at IEP can be made with up to 60% recycled materials
SUBCHAPTER R - TOXIC SUBSTANCES CONTROL ACT, PART 761

- Manufacturing and processing of PCBs was banned under TSCA in 1979

- …pigments that contain 50 ppm or greater PCB may be processed, distributed in commerce, and used in a manner other than a totally enclosed manner until January 1, 1982…40 C.F.R. § 761.3 (g), Reserved after 1999

- The concentration of inadvertently generated PCBs in products leaving any manufacturing site or imported into the United States must have an annual average of less than 25 ppm, with a 50 ppm maximum” 40 C.F.R. § 761.3 (l)
## PCB Paradox

<table>
<thead>
<tr>
<th>Reference</th>
<th>PCB Concentration (ppm)</th>
<th>Magnitude Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal TSCA Allowance</td>
<td>50</td>
<td>----</td>
</tr>
<tr>
<td>IEP's Effluent</td>
<td>0.00000024</td>
<td>20,833,333</td>
</tr>
<tr>
<td>WA Prior HHWQC</td>
<td>0.00000017</td>
<td>294,117,647</td>
</tr>
<tr>
<td>EPA/WA Current HHWQC</td>
<td>0.000000007</td>
<td>7,142,857,143</td>
</tr>
</tbody>
</table>
PCBs are Nationwide Issue

- Up to 200 known chemical processes that may inadvertently create PCB byproducts:
  - Paint
  - Inks
  - Titanium Dioxide (white pigments)
  - Ag chemicals
  - Plastics
  - Soaps
  - Silicone rubber
  - Caulk measured up to = 300,000 ppm

- 2010 – 1,084 fish advisories for PCB’s in 40 States
- 5,578 water bodies on 303(d) list for PCBs
- Many States are adopting revised FCR’s & HHWQC
Other PCBs in Pigments

From Hu and Hornbuckle, 2010

Figure 2. Examples of PCB profiles in paint pigments (top two plots) and the frequency of congener detection in the 15 pigments with detected PCBs (bottom plot).
PCB Analysis at IEP

PCB Congener Analysis of IEP Effluent

PCB Congener

PCB Concentration (pg/L)

PCB Congener

PCB-11
## Reductions Needed to Meet Standards

Inland Empire Paper Company

<table>
<thead>
<tr>
<th>Location on Spokane River</th>
<th>Current t-PCB Load (mg/day)</th>
<th>Target t-PCB Load (mg/day) at Water Quality Criterion</th>
<th>t-PCB Load Reduction Required to Meet Water Quality Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NTR (170 pg/l)</td>
<td>Spokane Tribe (3.37 pg/l)</td>
</tr>
<tr>
<td>Stateline</td>
<td>477</td>
<td>766</td>
<td>15</td>
</tr>
<tr>
<td>Upriver Dam</td>
<td>537</td>
<td>780</td>
<td>15</td>
</tr>
<tr>
<td>Monroe St.</td>
<td>1,413</td>
<td>1,208</td>
<td>24</td>
</tr>
<tr>
<td>Ninemile</td>
<td>2,281</td>
<td>1,243</td>
<td>25</td>
</tr>
<tr>
<td>Little Spokane River</td>
<td>97</td>
<td>83</td>
<td>2</td>
</tr>
<tr>
<td>Lake Spokane (lower)</td>
<td>3,664</td>
<td>1,562</td>
<td>31</td>
</tr>
<tr>
<td>Little Falls</td>
<td>3,664</td>
<td>1,562</td>
<td>31</td>
</tr>
<tr>
<td>Spokane Arm</td>
<td>3,664</td>
<td>1,562</td>
<td>31</td>
</tr>
</tbody>
</table>
PCBs History from Sediment Record
Lower Lake Spokane

Total PCBs in Age Dated Sediment Core (2003)
- Steep declines from 1960s through mid-1980s
- Approximately 50% decline in 20 years (1980-2000)
IEP BMP’s

- Very limited due to primary source from inadvertent generation in inks and pigments:
  - TSCA reform to reduce or eliminate source
  - End-of-pipe removal
    - No known technologies to attain WQS
    - Prohibitively expensive
  - Elimination of Recycling
Solutions?

- **Technical:**
  - Develop alternative (non-chlorinated) products
  - Develop products w/reduced levels of PCBs
  - Develop new end-of-pipe treatment for PCB abatement
  - Perform risk assessment of all 209 congeners

- **Regulatory/Policy/Legal:**
  - Eliminate allowance for inadvertent PCB products
  - General phase-out of allowance
  - 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

- **Stakeholder Task Force to vet & offer solutions:**
  - Regulatory, Technical, Legal and Policy