



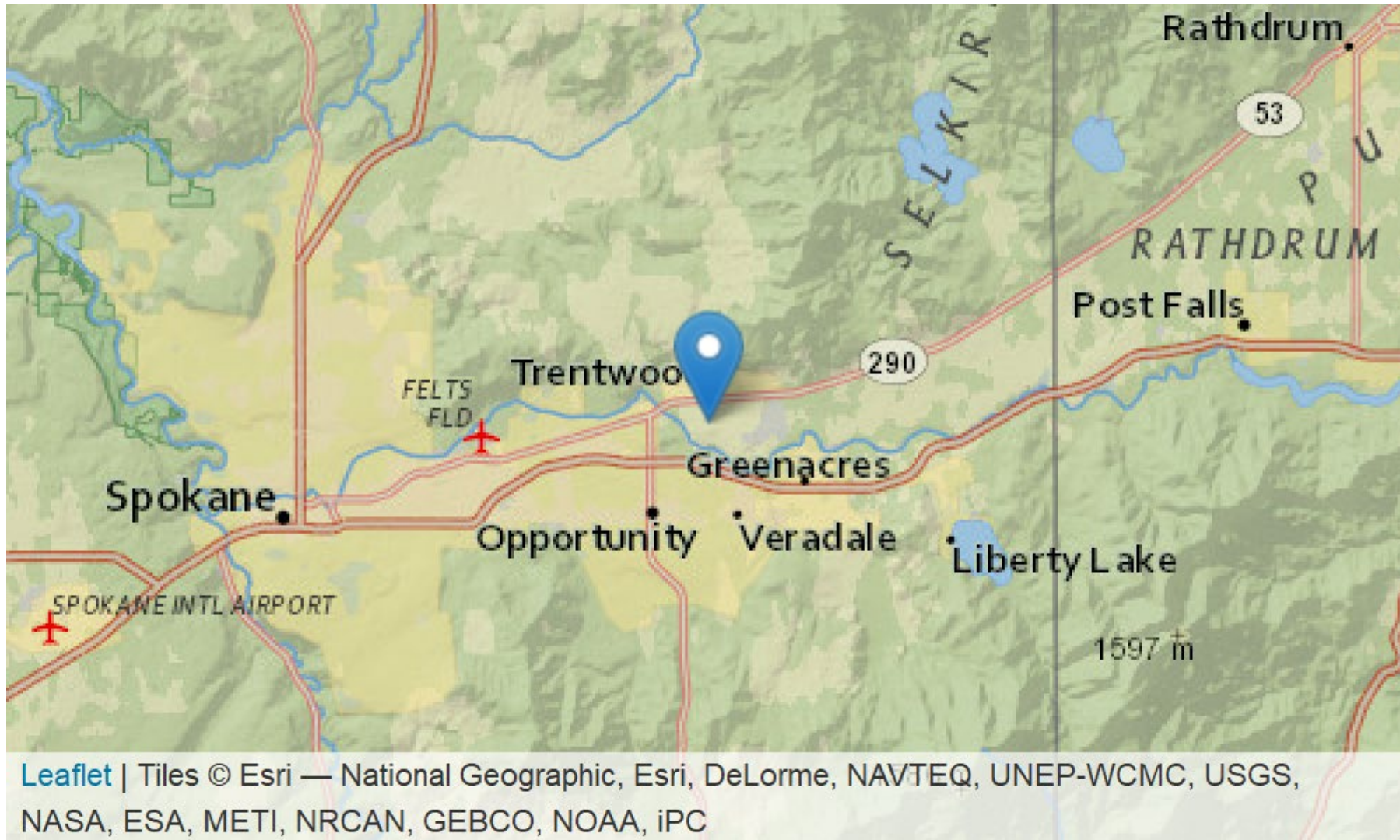
Kaiser Aluminum Proposed NPDES Discharge Permit

Pat Hallinan

Kaiser Aluminum

- Aluminum Rolling Mill and Metal Finishing Plant
 - Produces aluminum sheet, plate, and coil
- Wastewater Discharge to the Spokane River (average 6.2 MGD)
 - Treated process wastewater
 - Non-contact and contact cooling water
 - Stormwater
 - Plant sanitary wastewater
- Historic Releases/Cleanup Activities
 - Cleanup of polychlorinated biphenyl (PCB) contamination in groundwater is ongoing under the Model Toxics Control Act (MTCA)

Site Location



Leaflet | Tiles © Esri — National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC

Site Overview

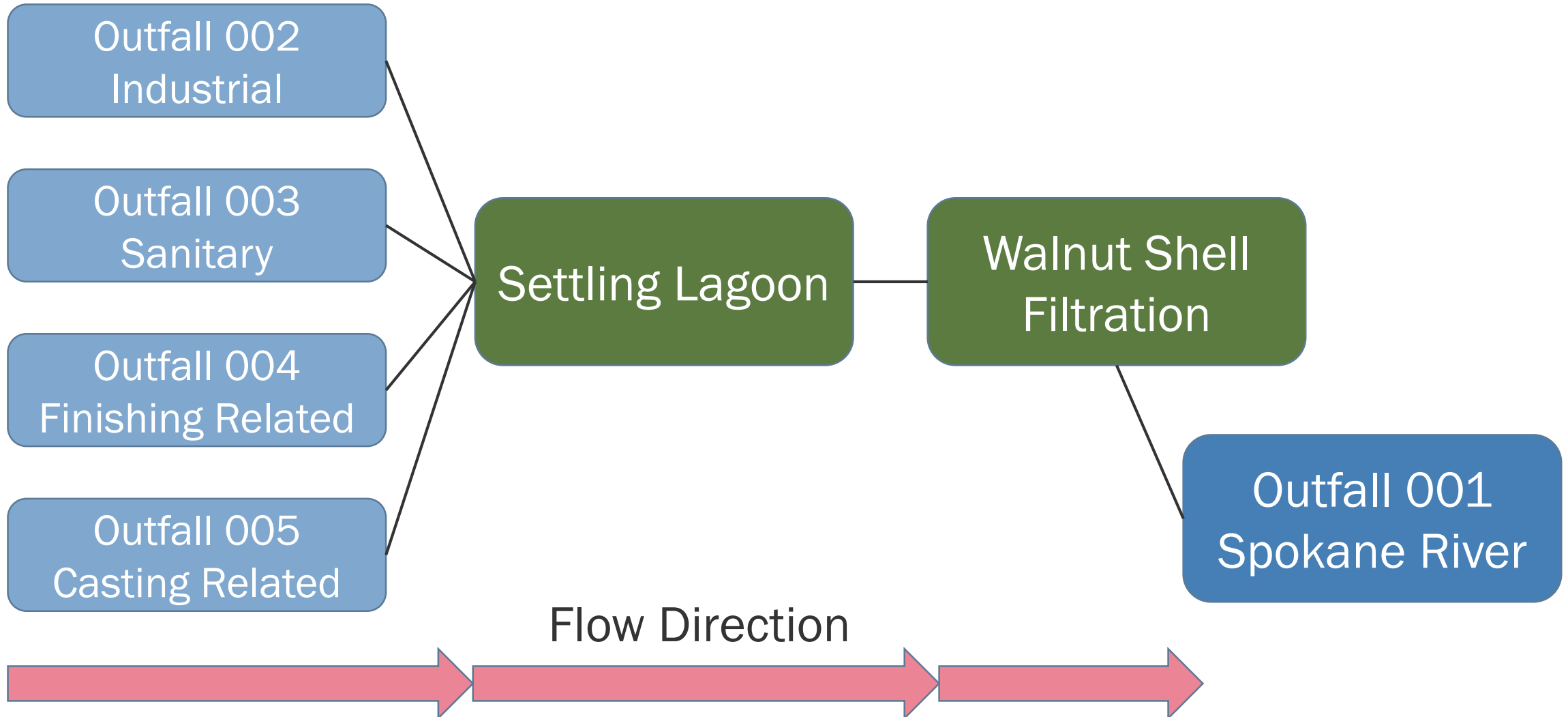


Kaiser Groundwater Cleanup Status

- Testing ultra-violet light technology to destroy PCBs is ongoing
 - Initial results are showing high levels of destruction
 - Improvements to the system continue
 - Final decision for full-scale treatment technology will occur in 2022
- Project Website:
 - <https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=7093>



Treatment Overview



Treatment Overview



Monitoring Points

002 - Industrial

003 - Sanitary

004 - Finishing Operations

005 - Casting Operations

006 - Walnut Shell Filtration

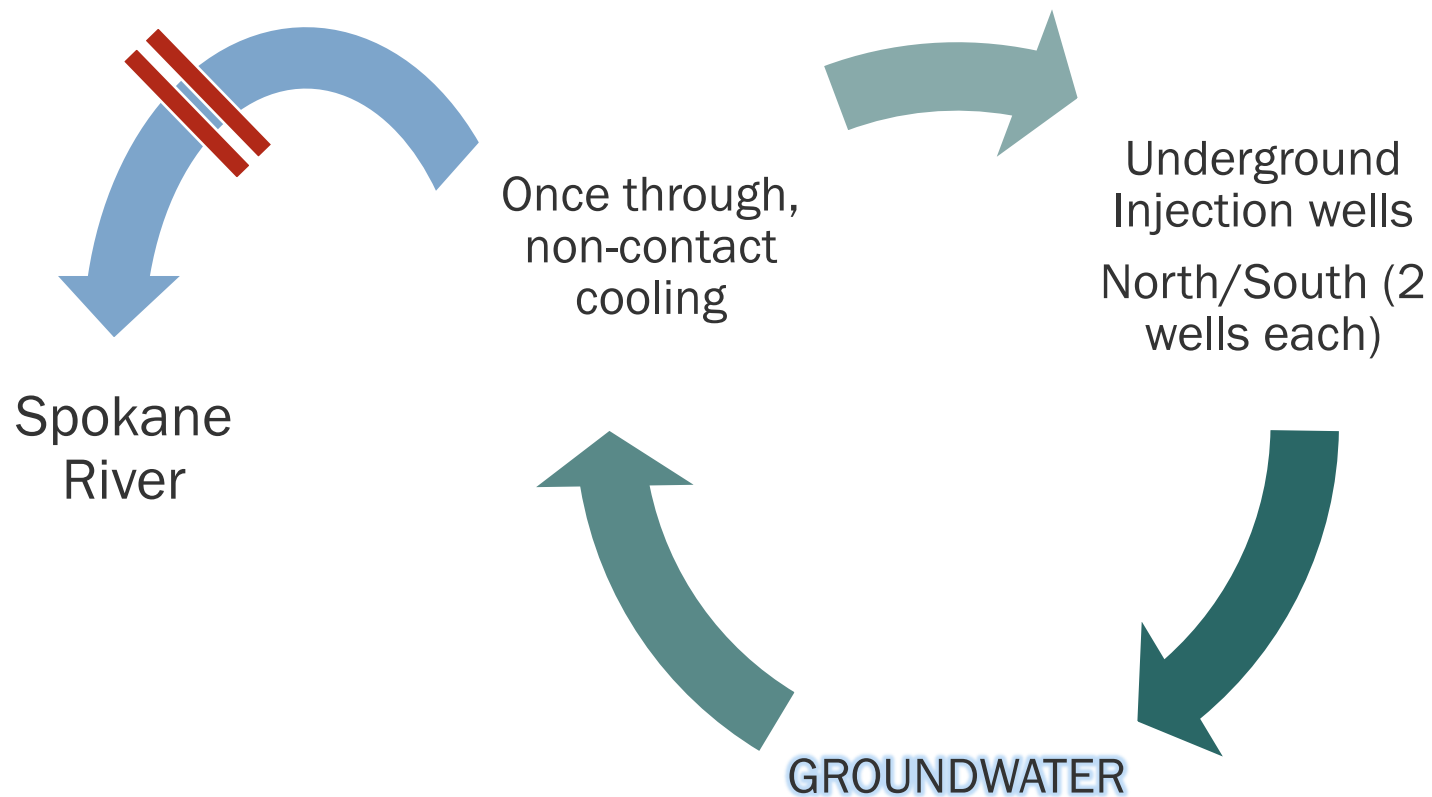
001 - Final Discharge

Discharge Outfall



Flow Reduction Efforts

Underground Injection Control (UIC) Program



Effluent Limitations (Limits)

- Technology Based
 - Federal Effluent Guidelines
 - Case-by-case determinations
- Water Quality Based
 - Evaluate Critical Effluent and Receiving Water Conditions (Reasonable Potential Determination)
 - Water Body Impairments
 - Total Maximum Daily Load (TMDL) Requirements

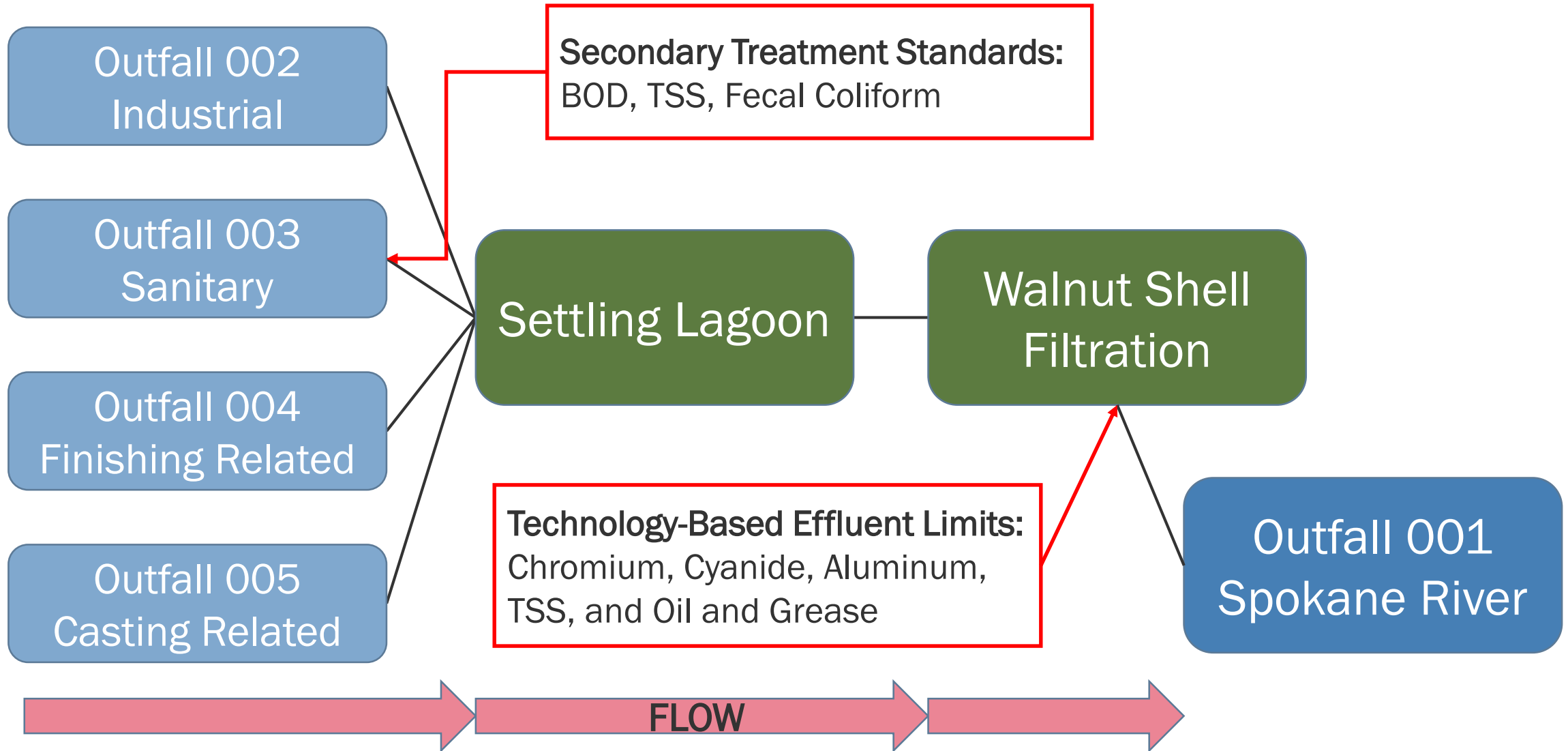
Water Quality Assessment - Category 5

PARAMETER_NAME	CATEGORY	Status	WATERBODY_NAME	MEDIUM_NAME
Polychlorinated Biphenyls (PCBs)	5	Current	SPOKANE RIVER	Tissue
Temperature	5	Current	SPOKANE RIVER	Water
2,3,7,8-TCDD (Dioxin)	5	Current	SPOKANE RIVER	Tissue
Polychlorinated Biphenyls (PCBs)	5	Draft	SPOKANE RIVER	Tissue
Temperature	5	Draft	SPOKANE RIVER	Water
2,3,7,8-TCDD (Dioxin)	5	Draft	SPOKANE RIVER	Tissue

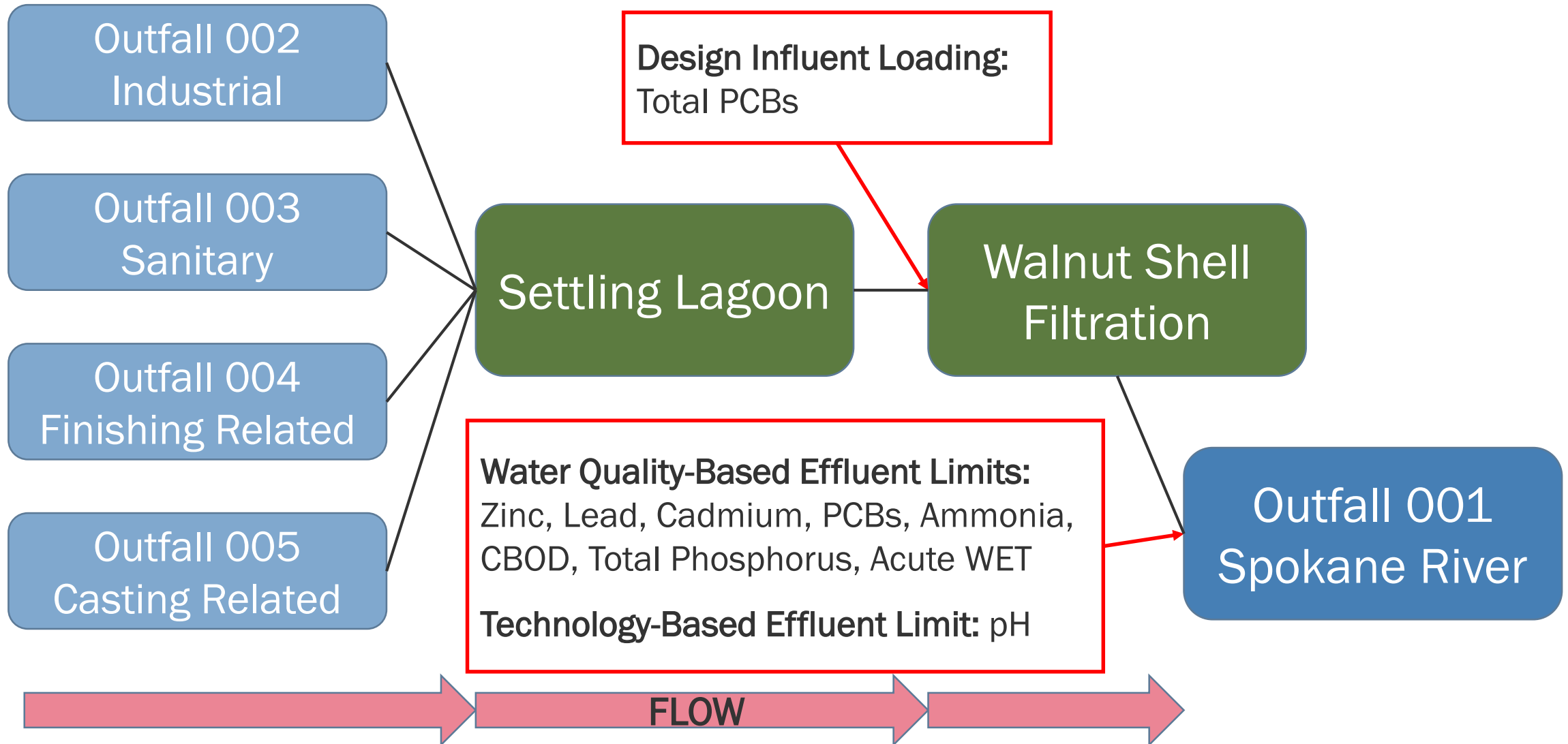
Water Quality Assessment - Category 4a

PARAMETER_NAME	CATEGORY	Status	WATERBODY_NAME	MEDIUM_NAME
Zinc	4A	Current	SPOKANE RIVER	Water
Lead	4A	Current	SPOKANE RIVER	Water
Zinc	4A	Draft	SPOKANE RIVER	Water
Lead	4A	Draft	SPOKANE RIVER	Water

Proposed Effluent Limits



Proposed Effluent Limits



Water Quality Based Effluent Limits

Key Changes

Proposed Limits

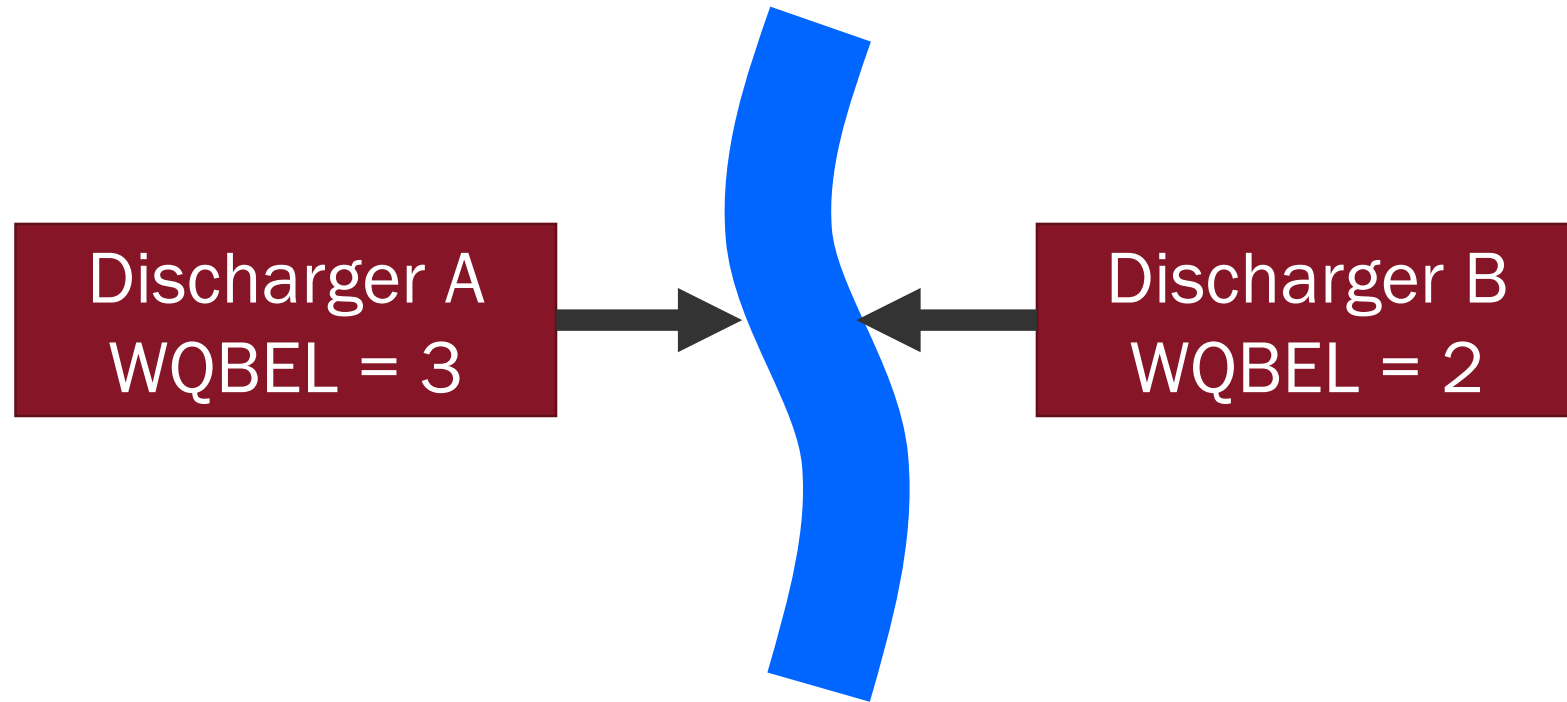
- Cadmium, Lead, and Zinc
- Total PCBs
- Whole Effluent Toxicity (WET) Limit
- Ammonia
- Total Phosphorus (Bubble Limit)
- Carbonaceous Biochemical Oxygen Demand (CBOD₅ - Bubble Limit)

Proposed Additional Data Collection

- Temperature



What is a Bubble Limit?

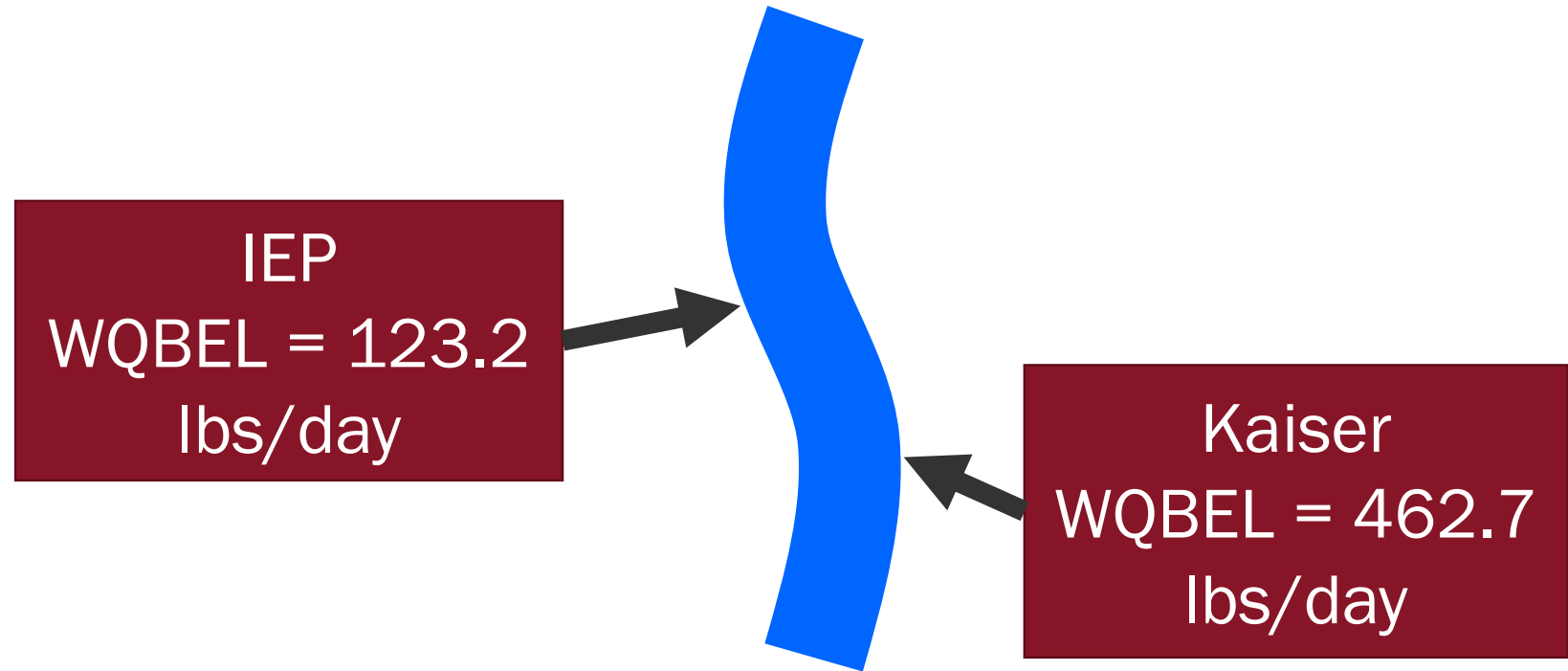


An individual discharger would not be considered in violation of their water quality based effluent limit (WQBEL), as long as the collective bubble limit is met during the same reporting period



What is a Bubble Limit?

CBOD₅ Seasonal Average



IEP < 123.2, then Kaiser limit =
 $462.7 + [(123.2 - \text{IEP load}) \times 14.9]$

IEP \geq 123.2, then
Kaiser limit = 462.7

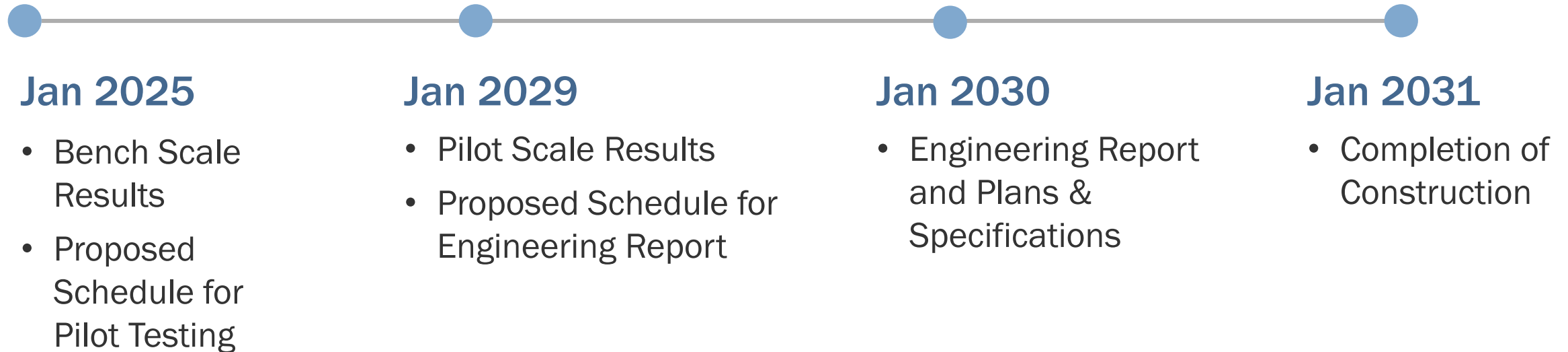
Other Permit Conditions

Agreed Order

- Negotiated following delayed re-issuance of previous permit (expired in 2016)
- PCB pollutant minimization plan (PMP)
 - Includes implementation of flow reduction projects
 - Continued participation in SRRTTF
 - Characterization testing using EPA method 1668
- Cooling water intake structure (CWIS) report
- Spokane River temperature monitoring
- Schedule for installation of 'next level of treatment' for PCBs

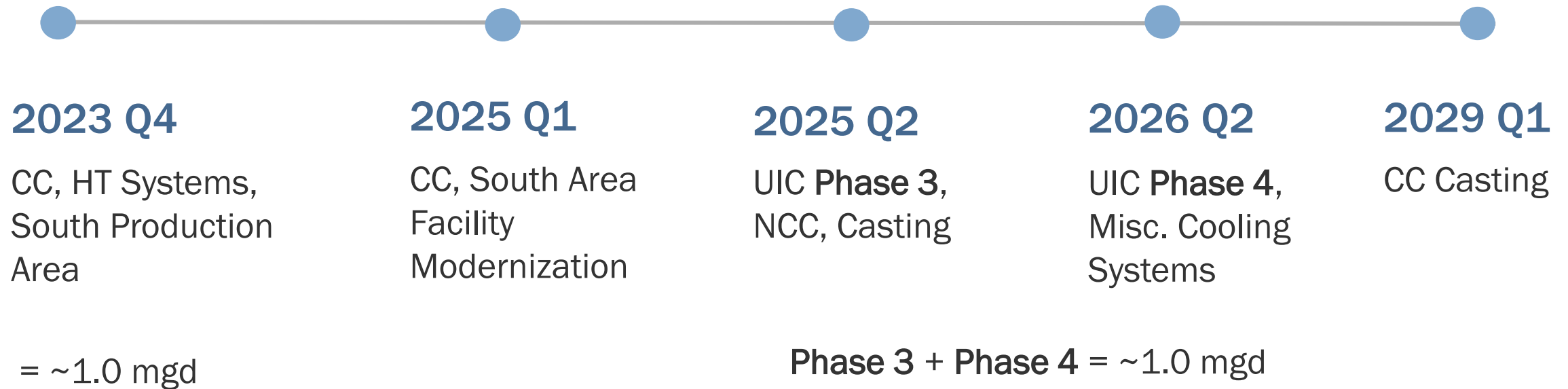
Compliance Schedule

Implement 'Next Level of Treatment' for PCBs



PCB PMP – Flow Reduction Actions

Flow reduction projects and target completion dates



CC – Contact Cooling;

HT – Heat Treatment;

NCC – Non-Contact Cooling



Thank You!



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Spokane River Watershed Webpage:

<https://ecology.wa.gov/Issues-and-local-projects/Environmental-projects/Improving-Spokane-Watershed>