



BETTER PERMITS MAKE BETTER EMISSION INVENTORIES

Warren Smith | K2 Environmental Consulting
2019 International Emission Inventory Conference

FULL CIRCLE

ESSENTIAL ELEMENTS

- Good Rules
- Complete Permits
- Complete Emissions Statements
- Complete Emissions Inventories





STRUCTURAL ISSUES

- Equipment Details Accurate
- Emission Calculations
 - Based on operating time, or
 - Based on fuel use
- Logical, with one interpretation
- Worst Case vs Actual Emissions



OPERATING SCENARIOS

- Often Full Load is assumed
- More than one emission factor
- We want Actual Emissions
- Vapor Pressures
 - Higher for some crude oils
 - Lower now for many inks

Defining the Sources

Equipment Issues

- Natural Gas Engines, 2-Stroke/4-Stroke, Rich Burn/Lean Burn
- Insignificant Equipment:
 - Boilers < 300,000 BTU/hr
 - Boilers 300,000 BTU/hr to 1 Million BTU/hr
- Exempt Equipment

Fugitives

- Roads left out of permits
- Material Handling



Accurate Emission Statements

Pollutant Issues

- SO₂
- Formaldehyde
- Material Handling Particulates
- Reporting Lead Emissions
- Exempt VOCs
- Ammonia
- Methane
- HAPS not in Permits

Most Unexpected Finds

- From 20 years of reviewing Emission Statements

