

Plantwide Applicability Limits (PALs): Benefits and Limitations

2020 Missouri Air Compliance Seminar

Joseph Stolle, PE, Senior Environmental Engineer



November 4, 2020

Presentation Roadmap

- What is a Plantwide Applicability Limit (PAL)?
 - History
 - General requirements
- How is a PAL Calculated?
- Benefits?
- Limitations and Concerns?
- Project Examples
 - PAL makes sense
 - Probably not
- Conclusion/Questions



What is a Plantwide Applicability Limit (PAL)?

- Promulgated as part of the 2002 NSR reform rule
 - Also included in the 2002 reform rule:
 - Actual to future actual applicability test
 - Past actual emissions that could have been accommodated
 - 10-year baseline period
- Optional flexible permitting mechanism available to major sources
- Requires establishment of plantwide emission limit, tons/year, 12-month rolling
- Project-by-project NSR applicability analyses not required as long as facility-wide emissions < PAL



How is a PAL Calculated?

- Calculate the Baseline Actual Emissions for the PAL Pollutant
- Add permitted allowable emissions for each unit added after the 24-month baseline period
- Subtract emissions from any emission unit permanently shut-down after the 24-month baseline period
- Add Significant Emission Rate (15 ton/yr PM_{10} , 40 ton/yr NO_x , etc)



PAL Benefits? – According to EPA

- Increased operational flexibility
- Regulatory certainty
- A simpler NSR applicability approach
- Fewer administrative burdens
 - In some situations
- Potential environmental benefits
 - Incentivizes control installation to stay under limit
 - Prohibits serial, small unrelated emission increases which can occur under the traditional NSR provisions
 - This can also be considered a limitation

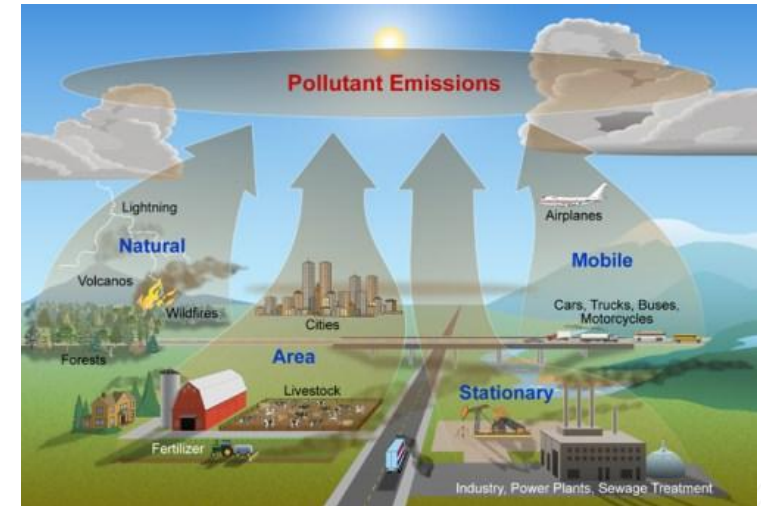


PAL Limitations and Concerns?

- Permit reopening
 - Correct errors made in setting the PAL
 - Reduce the PAL if the source creates reductions to be used as offsets
 - Increase the PAL-can't meet the limit
- Reviewing authority can also reopen a PAL and reduce the limits
 - Reflect newly applicable regulations (NSPS, MACT, etc.)
 - Required by a State Implementation Plan (SIP)
 - To avoid a NAAQS or PSD increment violation

PAL Limitations and Concerns? (Continued)

- PAL Renewal every 10 years
 - Source must submit a PAL renewal 6 months prior to expiration
 - Recalculate and propose new maximum PAL level
 - Must include any new requirements
 - Baseline emissions are reevaluated during the renewal which can lead to a reduction of the PAL
- PAL Termination
 - No provisions to terminate prior to expiration
 - Can be an obstacle to ownership transfer-partial sale
 - Handled on case-by-case basis



PAL Limitations and Concerns? (Continued)

- Monitoring Requirements
 - Monitoring requirements must be enforceable
 - Could require costly and complex monitoring systems
 - CEMS, PEMS, CPMS
 - Emission factor adjustment
 - Adjusted for degree of uncertainty or limitations in the factor development
- Validation Testing
 - Only applicable to significant emission units
 - Validation testing to determine factor within 6 months of issuance
 - No guidance to aid in determining when not required

Project Example #1 - PAL Might Makes Sense

- Major source of emissions
- Tends to have many small VOC emission increases
 - Actual emissions \ll De Minimis
- Many projects have actual emissions significantly less than potential
- Plantwide emissions downward trend-expected to continue over next 10 years
- Actual emission data can be calculated using mass balance



Project Example #2 - Probably Not PAL Candidate

- Major source of emissions
- Subject to a standard that requires significant control of most point and fugitive sources
- Significant additional emission reductions would be expensive
- CEMs not currently required-available for the pollutant/source
- Several stacks with significant controlled emissions



Conclusion

- PALs make the most sense for facilities that:
 - Sources that could be controlled at relatively low cost
 - Downward emission trend for PAL pollutants
 - Simple emission monitoring methods
- PAL similar to conditioned plantwide potential emission rate
- State permitting may still be required
- Traditional NSR provisions allow for small incremental increases without plantwide cap

Questions?

- Joseph Stolle, PE, Senior Environmental Engineer

620.252.9033

jstolle@geoengineers.com

