

AERMOD Implementation: Next Steps Roundtable Discussion

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Process

- Applaud Efforts of AERMOD Implementation Workgroup (AIWG)
- Implement AIWG Recommendations
- Caution Regarding Code Development by Committee – Option 1 under Future Role
 - Recommend Option 2: Advisory Committee Role
- Consider Needs for User Support
 - Improve Debug Outputs – Develop Tool to Facilitate QA & Interpretation of Results

Technical

- Focus on URBAN
 - Evaluate URBAN option with additional databases
 - Sensitivity analyses for URBAN option
 - Address known flaws & identify unknown flaws
 - Enhance guidance for URBAN applications
- Focus on Low-level Sources
 - Sensitivity analysis documents the importance of z_0 influence
 - Develop simple procedure, possibly utilizing AERMIC blending technique, to adjust for variations in z_0 for application site
 - Clearly document, and then resolve light wind issues
 - Downwash influences on low-level area and volume sources

Technical (cont.)

- Evaluate Representativeness of NWS Surface Data
 - ASOS/METAR, increased frequency of calms & variable winds
 - Redo/expand meteorological data degradation analysis
 - Analyze sensitivity of AERMOD to ASOS data
 - Should substitutions for missing NWS data be required?
 - Can calms/variable winds be simulated as fully random plume?
- Develop AERMOD Standardized Test Dataset
 - Utilize existing consequence analysis and performance evaluation databases
 - Develop automated process to run and report results (similar to CALPUFF test dataset)
 - Use to vet model changes and to evaluate/prioritize new issues

Technical (cont.)

- Revisit BPIPPRM Formulation
 - Split building problem – logic flaw in BPIPPRM – incorporate simple fix
 - More difficult issue is treatment of stack/building geometry in selection of “controlling structure” for PRIME algorithm
- Status of Recent AERMOD Changes – Not Yet Released
 - Several bug fixes
 - PM-2.5 processing option
 - Multiple URBAN area option
 - MHRDOW & MHRDOW7 EMISFACT options
 - Draft Capped/Horizontal stack options

Technical (cont.)

- AERMOD Optimization
 - Several potential areas for optimization – meander, PRIME, area sources, deposition/depletion
 - Given complexity of current AERMOD code, and circuitous route for code development, recommend “stepping back” and looking at options for significant overhaul of code design both for optimizing runtime and expediting future maintenance

Questions



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