

# OAQPS Update

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# Outline

- Model Clearinghouse
- CALPUFF update

# Model Clearinghouse

- What is it?
  - A process and mechanism by which an EPA Regional Office can obtain EPA Headquarters concurrence on implementation issues related to air quality modeling.

# Model Clearinghouse

- Statutory authority?
  - Appendix W, Section 3.3(b): “As appropriate, Regional Office may request assistance from the Model Clearinghouse after an initial evaluation and decision has been reached concerning the application of a model, analytical technique or data base in a particular regulatory action.

# Model Clearinghouse Goals

- Provides national consistency in regulatory decisions
- Focal point for Regional Offices to seek direction from AQMG on modeling issues
- Communication archive on past MC decisions

# MC Operation

- Issue arises at State office (or RO)
- State gathers information on issue and forwards information to RO
- RO reviews material, formulates a proposed response, and submits to MC Director (email)
- MC reviews the RO response (iterative)
- MC interacts with other RO experts to ensure consistency

# MC Operation

- MC reviews issue for concurrence
  - AQMG staff
  - OAQPS staff
- RO creates a final memo and submits to MC for concurrence
- MC generates formal MC response of concurrence on EPA letterhead
- Formal MC memo is sent via email to all ROs
- MC memo is recorded in MCHISRS

# MC Operation

- Types of issues
  - Technical – response provided by AQMG and other technical experts
  - Policy – response given primarily by Air Quality Policy Division (Bill Harnett), along with AQMG

# Use of Model Clearinghouse

- Memo requirements from Regional Office
  - provides background on issue
  - explains the issue and gives adequate detail required to formulate a position
  - formulates a response for concurrence

# Use of Model Clearinghouse

- Memo requirements from Regional Office
  - RO position **MUST** be supported by scientific evaluation and documentation
  - Memo should be generated by RO; not a forwarded email from the State

# Model Clearinghouse activities

- Dennis Atkinson – MC Director effective February 7, 2006 (after Warren Peters retired)
- 2 MC issues
  - Region 4...regulatory use of CALPUFF; PG vs. turbulence for BART modeling
  - Region 7...implementation issues associated with AERMET

# Model Clearinghouse activities

- Periodic calls w/Regions, individually
  - discuss any upcoming MC issues
  - familiarity with projects, provide advice or information
- Open for business!
  - available to help resolve issues
  - MC intervention...helpful to issues of similar nature or applications

# Model Clearinghouse archive

- MCHISRS - Model Clearinghouse Information Storage and Retrieval System
- Historical database of past formal and informal MC responses
- [http://www.epa.gov/scram001/guidance\\_clearinghouse.htm](http://www.epa.gov/scram001/guidance_clearinghouse.htm)

# Model Clearinghouse archive

- MCHISRS – searchable by topic, pollutant, RO, fiscal year, model, etc.
- Current system – only searchable by those who have an “epa.gov” address
- Formal memos and MCHISRS records are separated on SCRAM

# Model Clearinghouse archive

- New MCHISRS features:
  - links MCHISRS records to the formal MC memoranda
  - allows the MC Director to input additional MC records and memoranda
  - allows broader access (restriction to “epa.gov” eliminated)

# Model Clearinghouse

Questions?

# CALPUFF status

- History
- EPA regulatory version of CALPUFF
- Updating CALPUFF to VISTAS
- Post-regulatory versions of CALPUFF

# CALPUFF History

- 5.7 April, 2003
- 5.711a July, 2004 (regulatory)
- 5.711b December, 2005
- 5.754 February, 2006 (original VISTAS)
- 5.756 August, 2006 (latest VISTAS)
- 6.112 April, 2006 (MMS)
- 5.711c March, 2007\* (5.711a + bug fixes)
- 5.711c2 March, 2007\* (5.711a + bug fixes + non-optional technical enhancements)

\*provided from TRC for testing VISTAS version

# CALPUFF/CALMET History

- 5.7..... 5.53
- 5.711a.... 5.53a
- 5.711b.... 5.53b
- 5.754..... 5.724
- 5.756..... 5.726
- 5.711c.... 5.53c\*
- ... 5.53c2\*

\*provided from TRC for testing VISTAS version

# CALPUFF regulatory versions

- 5.7 – April, 2003; promulgation date
  - interim...CALPUFF evaluation tool being developed by MACTEC
- 5.711a -- June, 2006; CALPUFF update

# CALPUFF Update

- CALPUFF evaluation tool used to assess differences between 5.711a and 5.754 (old VISTAS)
- August, 2006 – notified by TRC of new VISTAS version (5.756)
- Begin evaluation of 5.711a and 5.756

# 5.756 evaluation

- Differences found between 5.711a/5.756
  - large differences between CALMET versions (5.53a vs. 5.726); up to 84% for scenarios 2, 3, (Pacific NW), 5 (deep valley)
  - smaller differences between CALPUFF versions (5.711a vs. 5.756); up to 46% for scenario 5 (deep valley)

## 5.756 evaluation

- Missing Model Change Bulletin (MCB-C) – MCB-A (5.711a) and MCB-B (5.711b) available
- Needed in-code model changes to assess and understand why differences are occurring

## 5.756 evaluation

- TRC request for documentation via VISTAS (Feb., 07)
- Received documentation (after some transmission difficulties) – March 15, 2007

# 5.756 evaluation

- TRC information received
  1. In-code documentation changes
    - includes type of change, whether it affects concentration
  2. MCB-B (available from TRC website)
  3. MCB-C – CALPUFF/CALMET changes;  
5.711a – 5.711c
  4. MCB-D – CALMET 5.730 (future release)
  5. Summary of model tests

# 5.756 evaluation

- In-code documentation categories for CALPUFF modeling system:
  - bug fixes
  - non-optional technical enhancements
  - new default options which require manual override to maintain consistency w/EPA regulatory version

# 5.756 evaluation

- New codes

- CALMET 5.53c = CALMET 5.53a + bug fixes

- CALMET 5.53c2 = 5.53c + non-optional technical enhancements

- CALPUFF 5.711c = CALPUFF 5.711a + bug fixes

# 5.756 evaluation

- Isolate

1. Bug fixes - majority of changes, according to TRC

2. Non-optional technical enhancements – science improvements

3. New defaults that require manual override in input files – change in EPA default values

## 5.756 evaluation

- New defaults that require override in input files:
  - IMIXH...convective mixing height
  - THRESHL...threshold buoyancy over land
  - THRESHW...threshold buoyancy over water
  - ICOARE...use delta T method for COARE
  - SVMIN...minimum sigma-v (CALPUFF)

# 5.756 evaluation

- Email – March 26, 2006
  - Sent to ROs, Pat Brewer, Joe Scire, internal staff on the evaluation details, currently in progress

# Post-5.756 version

- CALPUFF version 6.112 - Minerals Management Service (MMS) version; incorporates numerous over-water algorithms

# Questions?

Email questions to Dennis Atkinson at  
[atkinson.dennis@epa.gov](mailto:atkinson.dennis@epa.gov)

Thank You!