

Name: MS Rocket Engine Test--September 97
10/10/99

State(s): MISSISSIPPI
Pollutant(s): Unspecified Non-criteria
Regulation(s): PSD
State Regulation
Source(s): Power Plant
Model(s): CALPUFF
INPUFF
ISC3
Subject(s): Averaging Time for Emission Limits
Representativeness of Meteorological Data
Technical Credibility of Nonguideline Techniques
Urban/Rural: Rural Only
Oral/Written: Oral
Terrain: Low Terrain (below stack height)
Guideline: Non-guideline
Database: Off-site
Involvement: Review and Comment
Record Comments:

RECORD OF COMMUNICATION

TELEPHONE CALL MEETING CONFERENCE CALL OTHER

INFORMATION COPIES TO: Dennis, Stan Krivo

TO: D. Wilson
FROM: S. Krivo, Region IV
DATE: 9/23/97
TIME:
SUBJ: MS Rocket Test

SUMMARY OF COMMUNICATION:

State has asked R-IV if they could use INPUFF for modeling for a series of rocket tests. No information is available on the pollutants, but presumably there are some toxics. The amount of the release is not known at the moment, but if there are enough, a PSD permit would be required.

Issue: Is there a precedent for using INPUFF for rocket engine tests? Can INPUFF be used for this modeling?

C/H Comments: INPUFF was used for rocket engine tests in the past. See C/H Records 89-VIII-09 and 92-IV-03. The rationale for using INPUFF in these past tests were that the duration of the tests were quite short, like a few minutes; thus the continuous release Guideline models such as ISC3 would not be applicable. INPUFF was considered the best "puff" model available at the time. The "3a" criteria in Section 3.2.2 was used to allow the use of INPUFF.

Following this rationale, the appropriate action for the current modeling problem would be to establish that the duration of the release is short, requiring the use of some kind of puff model. Then look to see if INPUFF is still the best model for this type of release; e.g. might CALPUFF applicable, and would it be better? Would also need to establish that the data bases to run

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Model Clearinghouse Information Storage and Retrieval System

Record Information Report

Record Number: 98-IV -02 Fiscal Year: 1998 Region: 04 Last Update:
Name: MS Rocket Engine Test--September 97
10/10/99

INPUFF are available.
FOLLOWUP ANTICIPATED:
Region IV will discuss with MS
MODEL CLEARINGHOUSE RECORDS INFORMATION:
SOURCE NAME: MS Rocket Engine Test
LOCATION: MS
SOURCE TYPE: Rocket
POLLUTANTS: Non Criteria
REGULATION(S) INVOLVED: State Reg/PSD
MET. DATA BASES (ON/OFF-SITE): unknown
MODEL(S) USED: INPUFF, CALPUFF, ISC3
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Model Clearinghouse Information Storage and Retrieval System

Record Information Report

Record Number: 89-VIII-09 Fiscal Year: 1989 Region: 08
Last Update:
Name: Morton Thiokol-Nov 88
/ /

State(s): UTAH
Pollutant(s): TSP
PM-10
Regulation(s): PSD
Source(s): Open Burning
Model(s): ISCST
INPUFF
PCAD
Subject(s): Emissions Characterization
Meteorological Monitoring
Plume Rise
Representativeness of Meteorological Data
Technical Credibility of Nonguideline

Techniques

Time Scaling
Urban/Rural: Rural Only
Oral/Written: Oral
Terrain: Low Terrain (below stack height)
Guideline: Non-guideline
Database: Off-site
Involvement: Review and Comment

Record Comments:
11/8/88-12/13/88 Several discussions/conference calls between the C/H & R-VIII.
The State of UT plans to issue a PSD permit to Morton Thiokol for testing of booster rocket engines. Each test lasts about 2 minutes and emits about 200 tons of PM. The modeling supporting the permit consisted of

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using a modified version of ISC whereby plume rise from the nonguideline PACD model is used instead of Briggs. To get to a 24-hour concentration from the ISC estimates (assumed to be valid for 2-minutes) the estimates were divided by 720. The estimates were above the allowable increments for wind speeds less than 5 m/s; the permit states that the test burns cannot take place if wind speeds at plume level (about 10000 ft MSL) are less than 5 m/s. Issues: 1) Use of modified ISC & PCAD, 2) Permit limitation to wind speeds of 5 m/s or greater. C/H Comment: (Reflects agreement with R-VIII) 1) R-VIII will model the source with the INPUFF model, which is technically defensible for such short term releases. 2) R-VIII will provide written permission to use the nonguideline INPUFF model; UT will need to provide opportunity for public comment on the model. 3) The use of SCS (winds above 5 m/s only) is OK since it is not a stack source.

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Model Clearinghouse Information Storage and Retrieval System

Record Information Report

Record Number: 92-IV -03 Fiscal Year: 1992 Region: 04 Last Update:

Name: MS Rocket Testing - Sept 91

State(s): MISSISSIPPI
 Pollutant(s): Unspecified Non-criteria
 Regulation(s): PSD
 Source(s): Rocket
 Model(s): ISCST
 INPUFF
 PCAD
 Subject(s): Emissions Characterization
 Technical Credibility of Nonguideline

Techniques

Time Scaling
 Urban/Rural: Rural Only
 Oral/Written: Oral
 Terrain: Essentially Flat Terrain
 Guideline: Guideline & Non-guideline
 Database: Off-site