



Regional Air Impact Modeling Initiative: Pilot Study - Initial Phase

Volume One

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**Regional Air Impact Modeling Initiative:
Study Pilot - Initial Phase**

Volume One

U.S. EPA, OFFICE OF SOLID WASTE

U.S. ENVIRONMENTAL PROTECTION AGENCY

DISCLAIMER

This report documents a demonstration project of the U.S. EPA Region 6 Regional Air Impact Modeling Initiative (RAIMI) Program. This information is provided to U.S. EPA Regions and States for consideration as to how best to evaluate potential exposures that may result from the aggregate impacts of emissions from sources subject to U.S. EPA's regulations and permitting decisions. It also provides an example to the public and to the regulated community on how U.S. EPA intends to exercise its discretion in ensuring protectiveness. The document does not substitute for U.S. EPA's regulations, nor is it a regulation itself. Thus, it cannot impose legally-binding requirements on U.S. EPA, States, or the regulated community. It may not apply to a particular situation based upon the circumstances. U.S. EPA may change this report in the future based on additional information and understanding of that information, as appropriate. Mention of commercial products is only for description of the research described in this report, and should not be construed as a U.S. EPA endorsement of any such commercial products.

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TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1-1
1.1 REQUIREMENT TO CONDUCT RAIMI PILOT	1-3
1.1.1 Cumulative Exposure Project	1-4
1.1.2 Residual Risk Report to Congress	1-5
1.1.3 Integrated Urban Air Toxics Strategy	1-5
1.1.4 National-Scale Air Toxics Assessment	1-6
1.2 OVERVIEW OF STRATEGY FOR IMPLEMENTATION	1-7
1.3 SELECTION OF INITIAL PILOT STUDY AREA	1-10
1.4 SUMMARY OF PORT NECHES PILOT STUDY PROBLEM FORMULATION ..	1-12
2.0 ASSESSMENT AREA CHARACTERISTICS	2-1
2.1 REGIONAL CHARACTERISTICS	2-1
2.2 PORT NECHES ASSESSMENT AREA CHARACTERISTICS	2-2
2.2.1 Demographics	2-2
2.2.2 Transportation	2-3
2.2.3 Urban Development	2-6
2.2.4 Industrial Development	2-7
2.2.5 Emissions Data	2-8
2.2.6 CEP Results	2-14
2.2.7 Ambient Air Monitoring Data	2-24
2.2.7.1 Permanent Monitoring Stations	2-24
2.2.7.2 Mobile Monitoring Program	2-25
3.0 EMISSIONS CHARACTERIZATION	3-1
3.1 EMISSIONS CHARACTERIZATION APPROACH	3-2
3.2 EMISSIONS DATA USED IN THE RAIMI PILOT STUDY	3-5
3.2.1 TNRCC Point-Source Database	3-6

TABLE OF CONTENTS (Continued)

<u>Chapter</u>		<u>Page</u>
3.2.2	National Toxics Inventory	3-7
3.2.3	Supplemental Emissions Data Sources	3-10
3.2.3.1	RCRA Hazardous Waste Files	3-10
3.2.3.2	Table 1(a) Forms	3-11
3.2.3.3	Toxic Release Inventory (TRI)	3-12
3.3	EMISSION SOURCE PRIORITIZATION	3-13
3.3.1	Prioritization of Individual Emission Sources	3-14
3.3.2	Prioritization of Grouped Emission Sources	3-16
4.0	AIR DISPERSION MODELING	4-1
4.1	AIR MODELING APPROACH	4-2
4.1.1	Model Selection	4-4
4.1.2	Individual Emission Source Modeling	4-7
4.1.3	Grouped Emission Source Modeling	4-8
4.1.4	Modeling Using an Unit Emission Rate	4-11
4.1.5	Accounting for Emissions Partitioning	4-11
4.1.6	Accounting for Degradation of Reactive Contaminants	4-14
4.2	ASSESSMENT AREA SPECIFIC INPUTS	4-14
4.2.1	Surrounding Terrain Information	4-15
4.2.2	Surrounding Land-Use Information	4-15
4.2.3	Building Characteristics	4-15
4.2.4	Meteorological Data	4-16
4.2.4.1	Meteorological Pre-processors and Interface Programs	4-18
4.3	ISCST3 INPUT FILES	4-19
4.3.1	Control Pathway	4-20
4.3.2	Source Pathway	4-23
4.3.3	Receptor Pathway	4-26
4.3.4	Meteorological Pathway	4-27
4.3.5	Terrain Grid Pathway	4-27
4.3.6	Output Pathway	4-27

TABLE OF CONTENTS (Continued)

<u>Chapter</u>		<u>Page</u>
4.4	ISCST3 MODEL OUTPUT	4-28
5.0	RISK MODELING	5-1
5.1	RISK MODELING APPROACH	5-2
5.2	IDENTIFYING LAND USE CHARACTERISTICS	5-5
5.3	IDENTIFYING EXPOSURE LOCATIONS	5-6
5.4	RISK MODELING INPUTS	5-7
	5.4.1 Contaminant-Specific Emission Rates	5-8
	5.4.2 Fate and Transport Parameters	5-8
	5.4.3 Exposure Scenario	5-9
	5.4.4 Contaminant Properties	5-11
5.5	RISK MODELING OUTPUTS	5-12
	5.5.1 Carcinogenic Risk	5-12
	5.5.2 Noncarcinogenic Hazard	5-13
6.0	INITIAL PHASE RESULTS	6-1
6.1	NEIGHBORHOOD-SPECIFIC RESULTS	6-2
	6.1.1 Port Neches/Nederland Neighborhood	6-9
	6.1.1.1 Cancer Risk Values	6-10
	6.1.1.2 Non-Cancer Hazard Values	6-11
	6.1.1.3 Source Attribution	6-12
	6.1.1.4 Applicable Air Monitoring Data	6-20
	6.1.1.5 Risk Management Considerations	6-23
	6.1.2 Groves Neighborhood	6-26
	6.1.2.1 Cancer Risk Values	6-26
	6.1.2.2 Non-Cancer Hazard Values	6-28
	6.1.2.3 Source Attribution	6-28
	6.1.2.4 Applicable Air Monitoring Data	6-42
	6.1.2.5 Risk Management Considerations	6-42

TABLE OF CONTENTS (Continued)

<u>Chapter</u>		<u>Page</u>
6.2	CONSIDERATIONS REGARDING USE OF RESULTS	6-46
6.2.1	Limits of Regulatory Reported Data	6-47
6.2.2	Lack of Emissions Speciation	6-52
6.2.3	Reporting of Actual vs. Allowable Emissions Data	6-54
6.2.4	Accounting for Process Upsets	6-56
6.2.5	Secondary Formation of Contaminants	6-57
6.2.6	Monitoring Versus Modeling	6-59
	6.2.6.1 Controlled Study Considerations	6-60
	6.2.6.2 Air Model Reliability	6-62
	6.2.6.3 Review of Other Studies	6-63
	6.2.6.4 Consideration of Critical Data Gaps	6-64
6.3	UNCERTAINTY AND LIMITATIONS	6-67
7.0	PERFORMANCE REVIEW	7-1
7.1	RAIMI PILOT STUDY PERFORMANCE REVIEW	7-2
7.2	HOW TO USE RESULTS	7-6
7.2.1	Prioritize Risk Concerns	7-6
7.2.2	Refine National-Scale Assessments	7-7
7.2.3	Identify Risk Trends	7-8
7.2.4	Determine Significance of Data Gaps	7-10
7.2.5	Track Emissions Reduction Efforts	7-11
7.2.6	Support Monitoring Programs	7-11
	REFERENCES	R-1

TABLES

<u>Table</u>	<u>Page</u>
2-1 MARINE TERMINAL FACILITIES PORT NECHES ASSESSMENT AREA	2-5
2-2 1997 TRI FACILITY SUMMARY	2-10
2-3 1997 TRI CHEMICAL SUMMARY	2-11
2-4 1998 TRI FACILITY SUMMARY	2-12
2-5 1998 TRI CHEMICAL SUMMARY	2-13
2-6 1997 PSDB FACILITY SUMMARY	2-15
2-7 1997 PSDB SUMMARY	2-16
2-8 CEP RESULTS FOR JEFFERSON COUNTY	2-23
3-1 SOURCE-SPECIFIC EMISSIONS DATA NEEDS FOR MODEL INPUT	3-4
3-2 POTENTIAL SOURCES OF EMISSIONS INFORMATION	3-5
4-1 AIR MODELING INPUT PARAMETER VALUES	4-21
4-2 GRID NODE ARRAY AREAS PORT NECHES ASSESSMENT AREA	4-27
5-1 EXPOSURE PARAMETER VALUES	5-10
6-1 RISK SUMMARY	6-4
6-2 TOXICITY FACTORS FOR PRIORITIZED CONTAMINANTS	6-5
6-3 ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD FROM 1,3-BUTADIENE EMISSIONS	6-13
6-4 ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT A RANDOM RECEPTOR LOCATION IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD FROM 1,3-BUTADIENE EMISSIONS	6-15

TABLES (Continued)

<u>Table</u>	<u>Page</u>
6-5	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD FROM ETHYLENE OXIDE EMISSIONS 6-17
6-6	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT A RANDOM RECEPTOR LOCATION IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD FROM ETHYLENE OXIDE EMISSIONS 6-18
6-7	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD FROM BENZO(A)PYRENE EMISSIONS 6-19
6-8	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD FROM ACROLEIN EMISSIONS 6-21
6-9	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM BENZENE EMISSIONS 6-29
6-10	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM 1,3-BUTADIENE EMISSIONS 6-31
6-11	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT A RANDOM RECEPTOR LOCATION IN THE GROVES NEIGHBORHOOD FROM 1,3-BUTADIENE EMISSIONS 6-32
6-12	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM ETHYLENE OXIDE EMISSIONS 6-33
6-13	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT A RANDOM RECEPTOR LOCATION IN THE GROVES NEIGHBORHOOD FROM ETHYLENE OXIDE EMISSIONS 6-34
6-14	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM FORMALDEHYDE EMISSIONS 6-36

TABLES (Continued)

<u>Table</u>		<u>Page</u>
6-15	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM BENZO(A)ANTHRACENE EMISSIONS	6-37
6-16	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM BENZO(A)PYRENE EMISSIONS	6-38
6-17	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM BENZO(B)FLUORANTHENE EMISSIONS	6-40
6-18	ATTRIBUTION PROFILE AND RISK-BASED PRIORITIZATION AT THE LOCATION OF PREDICTED MAXIMUM IMPACT IN THE GROVES NEIGHBORHOOD FROM ACROLEIN EMISSIONS	6-41
6-19	FORMALDEHYDE AND ACROLEIN PRECURSOR EMISSIONS	6-46
6-20	COMPARISON OF 1997 TRI AND PSDB DATA	6-48
6-21	PERMIT STATUS-SPECIFIC EMISSIONS OF NON-METHANE VOCS	6-51
6-22	CONTAMINANT EMISSIONS AND PERMIT STATUS	6-52
6-23	SPECIATED AND UNSPECIATED EMISSIONS	6-53
6-24	COMPARISON OF ADULT CANCER RISK RESULTS FROM MONITORED AND AIR MODELED CONCENTRATIONS	6-61
7-1	SCC CODES FOR SIGNIFICANT 1,3-BUTADIENE SOURCES	7-9

FIGURES

<u>Figure</u>	<u>Page</u>
1-1 RAIMI PILOT STUDY REPORT	1-2
1-3 CONCEPTUAL MODEL	1-13

Attachment

FIGURES

1-2 ASSESSMENT AREA LOCATION MAP JEFFERSON COUNTY	
2-1 PORT NECHES ASSESSMENT AREA MAP	
2-2 POPULATION MAP	
2-3 AVERAGE INCOME MAP	
2-4 ETHNICITY MAP	
2-5 LAND USE AND LAND COVER MAP	
4-1 PSEUDO-SOURCE ARRAY FOR MODELING GROUPED EMISSIONS SOURCES	
4-2 RECEPTOR GRID AND NODE ARRAY MAP PORT NECHES ASSESSMENT AREA	
6-1 RESIDENTIAL EXPOSURE AREAS	
6-2 RESIDENT ADULT AIR INHALATION CANCER RISK FROM 1,3-BUTADIENE IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD	
6-3 RESIDENT ADULT AIR INHALATION CANCER RISK FROM ETHYLENE OXIDE IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD	
6-4 RESIDENT ADULT AIR INHALATION CANCER RISK FROM BENZO(A)PYRENE IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD	
6-5 RESIDENT CHILD AIR INHALATION NON-CANCER HAZARD FROM 1,3-BUTADIENE IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD	

FIGURES (Continued)

- 6-6 RESIDENT CHILD AIR INHALATION NON-CANCER HAZARD FROM ACROLEIN IN THE PORT NECHES/NEDERLAND NEIGHBORHOOD
- 6-7 MONITORING STATION HEALTH IMPACTS
- 6-8 RESIDENT ADULT AIR INHALATION CANCER RISK FROM BENZENE IN THE GROVES NEIGHBORHOOD
- 6-9 RESIDENT ADULT AIR INHALATION CANCER RISK FROM 1,3-BUTADIENE IN THE GROVES NEIGHBORHOOD
- 6-10 RESIDENT ADULT AIR INHALATION CANCER RISK FROM ETHYLENE OXIDE IN THE GROVES NEIGHBORHOOD
- 6-11 RESIDENT ADULT AIR INHALATION CANCER RISK FROM FORMALDEHYDE IN THE GROVES NEIGHBORHOOD
- 6-12 RESIDENT ADULT AIR INHALATION CANCER RISK FROM BENZO(A)ANTHRACENE IN THE GROVES NEIGHBORHOOD
- 6-13 RESIDENT ADULT AIR INHALATION CANCER RISK FROM BENZO(A)PYRENE IN THE GROVES NEIGHBORHOOD
- 6-14 RESIDENT ADULT AIR INHALATION CANCER RISK FROM BENZO(B)FLUORANTHENE IN THE GROVES NEIGHBORHOOD
- 6-15 RESIDENT CHILD AIR INHALATION NON-CANCER HAZARD FROM 1,3-BUTADIENE IN THE GROVES NEIGHBORHOOD
- 6-16 RESIDENT CHILD AIR INHALATION NON-CANCER HAZARD FROM ACROLEIN IN THE GROVES NEIGHBORHOOD

Appendices

CTS	Chemical-specific Toxicity Summary
ESC	Emission Source Characterization
IRAP	IRAP-h View Project Files
ISC	ISCST3 Air Dispersion Model Files
MON	Ambient Air Monitoring Data
NTI	National Toxics Inventory Database
PGS	Prioritization Group Sources
PSD	TNRCC Point Source Database
SEN	Model Parameter Sensitivity Analysis
SSSR	TNRCC 1997 Source Status Survey Results

Each appendix is further described in corresponding “read-me” files.

LIST OF ACRONYMS

°K	Degrees Kelvin
AERMOD	American Meteorological Society/EPA regulatory model
AIRS	Aerometric Information Retrieval System
CAA	Clean Air Act
CALPUFF	
CAS	Chemical Abstracts Service
CEP	Cumulative Exposure Project
CO	Control Pathway
CSF	Cancer slope factor
day/yr	days per year
DOQQ	Digital ortho quarter quad
EIS	Emissions inventory survey
EPA	U.S. Environmental Protection Agency
EPN	Emissions point number
ESL	Effects screening level
F _v	Fraction of contaminant air concentration in the vapor phase (unitless)
g/s	Grams per second
g/cm ³	Grams per cubic centimeter
GAQM	Guideline on Air Quality Models
GIS	Geographic information system
HAP	Hazardous air pollutant
HEAST	Health effects assessment screening tables
HHRAP	Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities
HQ	Hazard quotient
hr/day	Hours per day
HUSWO	Hourly United States weather observations
IRAP- <i>h</i> View™	Industrial Risk Assessment Program–Human Health
IRIS	Integrated risk information system
ISC-PRIME	Industrial source complex plume rise model enhancements
ISCST3	Industrial source complex short-term model
kg	Kilograms

LULC	Land Use Land Cover
m	Meter
m/s	Meters per second
m ³ /hr	Cubic meters per hour
MACT	Maximum achievable control technology
ME	Meteorological Pathway
MTBE	Methyl tert-butyl ether
NAD 27	North American Datum 1927
NAD 83	North American Datum 1983
NCDC	National Climatic Data Center
NO ₃	Nitrogen Oxide
NTI	National Toxics Inventory
NWS	National weather service
OAQPS	Office of Air Quality Planning and Standards
OH	Hydroxyl radical
OU	Output pathway
OZIPR	Ozone Isopleth Plotting Package
PAH	Polycyclic aromatic hydrocarbon
PCRAMMET	Personal computer version of the regulatory air model meteorological preprocessor
PSDB	Point source database
RAGS	Risk Assessment Guidance for Superfund
RAIMI	Regional Air Impact Modeling Initiative
RCRA	Resource Conservation and Recovery Act
RE	Receptor pathway
RfC	Reference concentration
RfD	Reference dose
SAMSON	Solar and Meteorological Surface Observational Network
SIC	Standard Industrial Classification
SO	Source pathway
U&M	Upset and maintenance
USGS	U.S. Geological Survey
UTM	Universal transverse mercator
TG	Terrain grid pathway
TIFF	Tagged information file format
TIGER	Topologically integrated geographic encoding and referencing system
TNRCC	Texas Natural Resource Conservation Commission

TRI	Toxic Release Inventory
VOC	Volatile organic compound
WBAN	Weather Bureau Army Navy
yr	Year