

Midlothian, TX Air Quality Evaluation

**Agency for Toxic Substances and
Disease Registry (ATSDR)**

and

**Texas Department of State Health
Services (DSHS)**

February 22, 2010



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AGENCY FOR TOXIC SUBSTANCES
AND DISEASE REGISTRY

Purpose of the Meeting

- **Review ATSDR's plan for addressing the community's questions/concerns**
- **Provide additional information about these activities**
- **Continue to accept public comment on the plan (through March 19, 2010)**



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ATSDR's Mission and Role

- **ATSDR's mission is to serve the public by using the best science, taking responsive actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances exposure.**
- **ATSDR's mandate is to protect the public from hazardous wastes and environmental spills of hazardous substances.**



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Midlothian, TX petition

Received August 2005

Summarized Issues/Concerns:

- all facility emissions are not identified
- effects of continuous low level exposure and the synergistic effects of emitted chemicals
- Impact on sensitive populations
- regulatory health-based screening guidelines aren't protective
- increased rates of cancers and birth defects
- air monitoring not trusted



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Summarized Community Concerns

(gathered from community surveys in 2005)

- Smell of rotten eggs around sunset
- Cars are dusty all the time – thick/white dust
- Respiratory infections
- Allergies
- Asthma – improves when leave area
- Sinus problems
- Cancer
- Auto-Immune diseases (sarcoidosis involving lungs and eye lids)
- Dogs with tumors and birth defects
- Air quality problems
- Graves Disease



What are ATSDR's planned activities?

First Step:

Community input into Public Health Response Plan (PHRP)

- Our plan for how ATSDR/DSHS will the respond to community concerns
- Plan can change as needed (living document)
- Keeps agencies accountable
- Allows community to know what steps agencies will take and where we are in the process



PHRP Comment Period

- **60-day comment period**
Jan 21, 2010 – Mar 19, 2010
- **Reading copies at Midlothian City Hall and A.H. Meadows Library**
- **Available on websites**



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Comments on PHRP

Send to:

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Nancy Ingram

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Contacts

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Environmental Data Evaluation

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Division of Regional Operations
Agency for Toxic Substances and Disease Registry
February 22, 2010



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Environmental Subteam Evaluation

Responsible for Projects 1-4

- Project 1: Sufficiency of database
- Project 2: VOC and metals analysis (Air)
- Project 3: VOC and metals analysis (other media)
- Project 4: NAAQS and H2S analysis (Air)



Project 1-Overview

- Do the available data provide a sufficient basis for reaching conclusions regarding air exposures?

- Responses will vary by:

- Pollutant
- Location
- Year



TSP Monitor



Project 1-Issues to Evaluate

- **Pollutants selected for monitoring**
- **Monitoring schedules**
 - **Frequency of sampling**
 - **Duration of individual samples**
- **Methods and data quality**
- **Placement of monitors**



SUMMA canister



Project 1-Data Sources

- **Emissions**
- **Meteorology**
- **Ambient air quality**



Project 1-Emissions Data Sources

- Toxics Release Inventory
- National Emissions Inventory
- State of Texas Air Reporting System
- Information from file reviews
 - Stack tests
 - Continuous Emissions Monitors



Project 1-Meteorology Data Sources

- Quantitative review of data collected by stations with longest period of record
 - Midlothian OFW site
 - Midlothian Tower site
- Qualitative review of data collected by other stations



6/4/08

OFW Met station



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Project 1-Air Quality Data Sources

- All data considered in the previous Health Consultation
- Additional data



Projects 2/3-Air Contaminants

What are the public health implications of exposure to VOCs, metals, and criteria pollutants in ambient air?

- **Have collected almost all available data**
- **Complete public comment draft**
Fall of 2010



Projects 2/4-Air Contaminants

Process:

- Statistical analysis of existing data
- Correlation analysis of meteorological data and ambient concentrations
- Identify the most current health based comparison values



Projects 2/4-Air Contaminants

Process (cont)

- Toxicological analysis
- Identify limitations
- Provide recommendations



Project 3-Other Media

What are the public health implications of exposure to organic chemicals and metals in environmental media other than air?

- **Have collected all available data**
- **Complete public comment draft Fall of 2010**



Project 3-Other Media

Process:

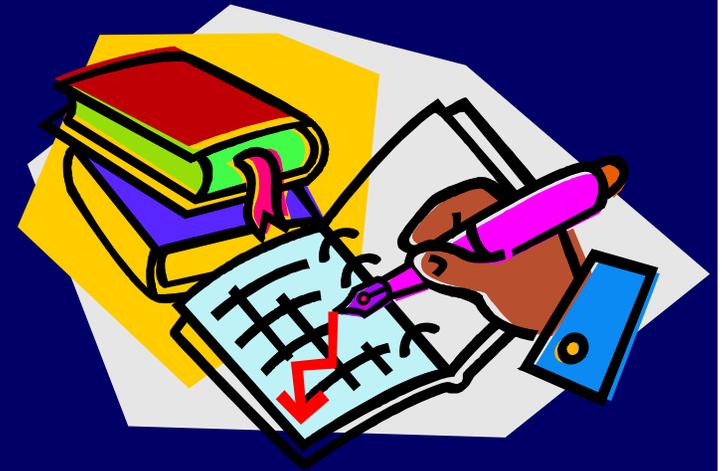
- Statistical analysis of existing data
- Evaluate spatial and temporal relationship of data
- Identify the most current health based comparison values



Project 3-Other Media

Process (cont)

- Toxicological analysis
- Identify limitations
- Provide recommendations



Midlothian Health Outcomes

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February 22, 2010



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Health Outcomes

PURPOSE: *Is there a relationship between acute or chronic health outcomes of interest and short-term and long-term exposures to emissions from the facilities and ambient air in the impacted area?*



- Birth Defects
- Cancer
- Asthma
- Other health concerns



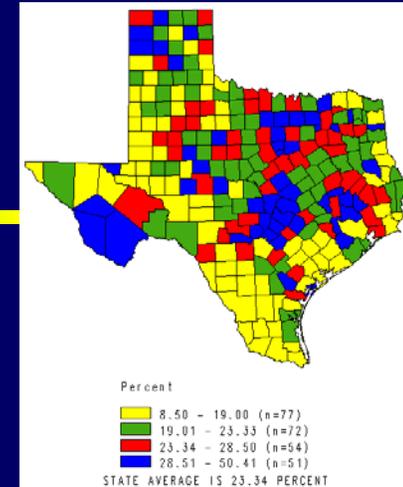
Health Outcome Data

Sources

- Registry data—Cancer, Birth Defects
- Health Assessment Surveys
- Questionnaires
- Anecdotal



Health Outcome Data



Limitations

- Availability/purpose of data set/registry
- Mobile populations, comparison populations
- Latency of disease
- Statistical power



Process for Evaluation of Animal Concerns

Jennifer Lyke

February 22, 2010



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Reported Animal Concerns

1. Reproductive problems

- Infertility and small litter sizes (dogs, horses)
- Cystic ovaries (horses)
- Stillbirths and failure to thrive
- Malformations
- Genitals
- Skeletal (limbs and feet)
- Neural tube (spina bifida, hydrocephalus)
- Body wall closure defects



2. Skin abnormalities

- Acute and chronic (dogs)
- Sweat glands (foals)

3. Cancers

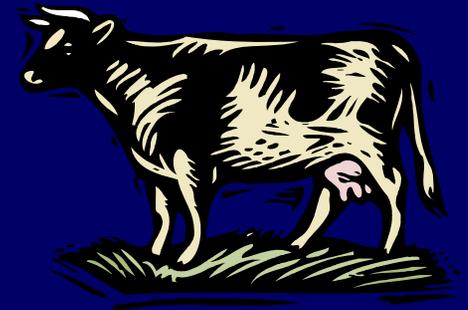
- Tumors in puppies and adult dogs



Reported Livestock Concerns

Species reported: cattle, horses, sheep, goats, ostriches

- Reproductive – infertility, cystic ovaries
- Developmental
- Skeletal deformities, body wall defects
- Ocular: eye defects
- Respiratory problems – acute and chronic
- Immune function?
 - Needs further study and better clinical documentation



Limitations to Date



- No incidence and prevalence data
 - No systematic collection of data
 - Limited access to veterinary and animal production records
 - Incomplete information on existing diagnoses and laboratory findings
- ** No routinely collected state or national animal health statistics exist for these conditions to use as comparison values.



Gathered Input



12/7/2009 – 12/11/2009

Met with the following veterinarians to gather input:

- Texas Animal Health Commission
 - Texas State Veterinary Diagnostic Lab
 - Texas A&M College of Veterinary Medicine
- Specialists consulted:** Toxicologist, Oncologist, Reproductive Health (Theriogenologist), Immunologist, Clinical Pathologist, Epidemiologist, Laboratory Services.
- Local veterinarians at various clinics and animal hospitals serving the Midlothian area.



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Next Steps

- Determine if environmental data is sufficient and can be used to estimate doses for routes of exposure (companion animals and livestock).
- Review veterinary and scientific literature for previous reports of toxicological information on contaminants of concern with respect to animal health issues.
- Consider developing *Provisional Animal Health Guidance Values* (PAHGVs) for specific routes of exposure (air, soil, water, etc.).
- Utilize the PAHGV screening values to determine if adverse health outcomes are expected.
- Incorporate findings as part of Public Health Consultation

