

# TexAQSI Remote Sensing VOC Project

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# Primary Goals

- Use the Hawk infrared camera to identify and characterize VOC emission sources that have possibly been unreported or under-reported in the agency's emissions inventory
- Develop a corrective strategy plan to minimize VOC emissions from identified plumes



# Study Area and Types of Observation Platforms

- Study area covered was the Houston Ship Channel, Texas City area, and the Beaumont area
- Observation platforms included the use of:
  - ◆ Helicopter;
  - ◆ Texas Parks and Wildlife boat;
  - ◆ TCEQ vehicle; and
  - ◆ San Jacinto Monument



# Summary of Results

In two weeks of observation time, or 45 hours of flight time:

- In the Houston / Texas City area:  
30 sites with noted visible IR plumes
- In the Beaumont / Port Arthur area:  
11 sites with noted visible IR plumes



# Storage Tanks

- 10,700 total storage tanks in the study area
- 5,400 were observed with the camera
- 71 noted with visible IR plumes

Result: 1.3 percent of tanks with a visible IR plume



# Summary of Results (cont.)

- Visible IR plumes were also noted from barges that were either
  - ◆ docked at one of the earlier noted facilities and being loaded or unloaded,
  - ◆ in a barge parking lot, or
  - ◆ in transit
- Plumes were primarily noted at the hatches and pressure relief vents

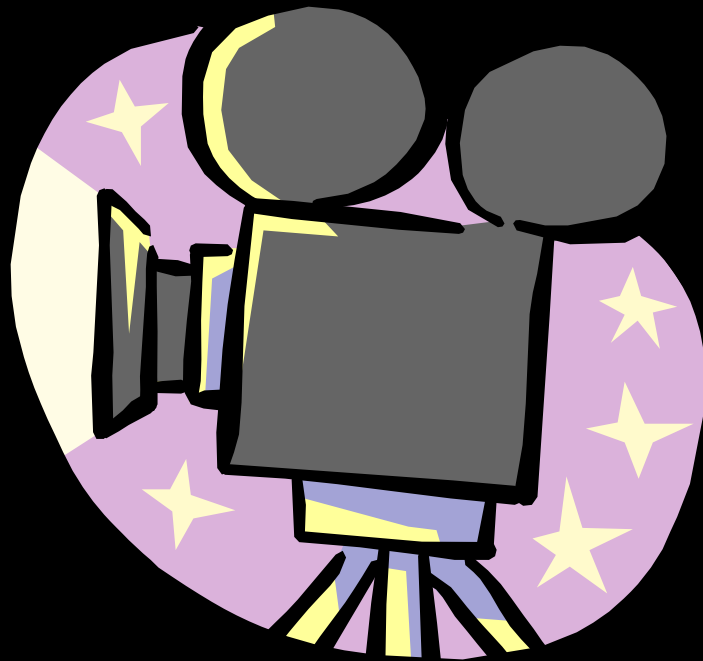


# Summary of Results (cont.)

Approximately 50 visible IR plumes were noted from oil and gas production facilities during flights between the Beaumont and Houston areas.



# So, Roll the Clip



# What Happens Now?

- A voluntary “Find and Fix It” Program with point source industries
- Working with the barge owners
- Identification and discussion with oil and gas production companies
- Potential incentives for using the remote sensing technology
- Regulations???



# An Initial Voluntary “Find it and Fix It” Program (non-enforcement)

- All of the identified point sources have been contacted and provided with:
  - ◆ A video clip of their release, and
  - ◆ An aerial photo that pin points the suspected source
- Company responses are due back soon (45 days from contact), and should include a corrective strategy plan.



# Barge Owners and Operators

- The agency is working with the American Waterway Operators, the Coast Guard, and the Louisiana DEQ to address the problems noted with barges.
- LDEQ is involved, because their flyover study found similar problems.



# Oil and Gas Production Companies

- The agency is working to identify the owner/operators of the oil and gas production sites that had visible IR plumes
- The owner/operators will then be contacted and asked to participate in the “Find it and Fix it” program



# Incentives: Remote Sensing Technology Use

Initiate a long-term program where companies are encouraged to use the camera to identify leaks and make the appropriate repairs in an expeditious manner. A follow-up assessment using either the camera or conventional means (TVA, etc.) will be necessary to ensure that the leaks identified were repaired.



# Incentives: Compliance History

Companies that opt to use a TCEQ approved infrared VOC imaging camera monitoring program to expeditiously identify and repair leaks could receive positive credit to the company's compliance history.



# Incentives: External Floating Roof Tank

- Use the IR VOC camera in lieu of the annual gap seal measurements
- However, use would not replace the 10 year shut-down and complete tank inspection requirements



# Incentives: Leak Detection and Repair Program

Use the IR VOC camera in conjunction with traditional VOC LDAR programs

- ◆ The use of the camera would be aimed at complementing the LDAR program, but would not replace the LDAR program
- ◆ Issue concerning undefined camera minimum detection limit (MDL) vs. current LDAR regulatory limits and method MDL
- ◆ IR VOC camera will allow more frequent and more inclusive monitoring of regulated and unregulated components



# Incentives: Leak Detection and Repair Program (cont.)

- The use of the IR VOC camera may allow additional skip periods for routine Method 21 leak detection
- Difficult-to-Monitor components - Frequent use of the IR VOC camera may replace the annual monitoring requirement in Chapter 115



# Incentives: Flexibility of State and Federal Regulations

- These incentives would require the flexible application of federal and state regulations and would need agreement by EPA
- Another key concern would be Title V deviation reporting. Some type of relief from deviation reporting would be needed for this type of voluntary program



# Regulations???

- Rule effectiveness review of storage tank rules
- New rules concerning loading and unloading of barges at regulated facilities
- ???????

