CARB AB 32 Scoping Plan Development Workshop
Oil & Gas Sector (Morning Session)
April 11, 2008

WSPA/CIPA/IOPA Presentation

Western States Petroleum Association (WSPA)
California Independent Petroleum Association (CIPA)
Independent Oil Producers Agency (IOPA)
Oil & Gas Sector Early Actions: Addressing Oil & Gas Production and Refining Operations, CARB, October 22, 2007

- **VENTING FROM OIL AND GAS SYSTEMS:** Reducing leaking and venting in the production, transport, and distribution of crude oil and natural gas (Target Emission - METHANE*).

- **METHANE CONTROLS IN OIL FIELDS:** Reducing leaking from oil and gas extraction operations such as petroleum gas seeps, process losses, and storage tanks (Target Emission - METHANE)

* Methane in the atmosphere is eventually oxidized, producing carbon dioxide and water.
CARB “Early Actions” Ideas

VENTING FROM OIL AND GAS SYSTEMS

- Replace Pneumatic Devices
- Install Flash Tank on Glycol Dehydrators
- Retrofit Natural Gas Compressors
- Use Infrared Aerial Imaging to Detect Leaks

METHANE CONTROLS IN OIL FIELDS

- “Small and insignificant CH₄ emission sources associated with the entire chain of exploration, production, and processing of oil and natural “ (CARB staff conclusion in Early Action Report)
What the Oil & Gas Industry is Doing Today

“Enhanced” Fugitive (VOC) Emission I&M Requirements

- SBCAPCD Rule 331 (adopted 1979, last amended 1991)
- VCAPCD Rule 74.7 (adopted 1979, last amended 1995)
- SCAQMD Rule 1173 (adopted 1989, last amended 2007)
- SJVAPCD Rule 4409 (adopted 2005)

SCAQMD is Nonattainment for Ozone (VOC is a precursor)
SJVAPCD is Nonattainment for Ozone (VOC is a precursor)
VCAPCD is Nonattainment for Ozone (VOC is a precursor)
SBCAPCD is now Attainment for Ozone
What the Oil & Gas Industry is Doing Today

**General Rule Elements**

- Scheduled field inspections with certified leak detection equipment
- Established leak detection thresholds
- Established leak repair time limits
- Use sophisticated emission estimating techniques
- Requires Best Available Control Technology (BACT)
- Subject to air agency compliance inspections

**BACT for Valves, Flanges, and Components (controls all emissions)**

- Bellow valves
- Welded seals
- Pump seals fitted with fluid barrier
- Closed systems (vapor recovery system)
What the Oil & Gas Industry is Doing Today

Glycol Dehydrators Requirements

- SBCAPCD Rule 325
- VCAPCD Rule 71.5
- SCAQMD Rule 1173
- SJVAPCD Rule 4408

Emission Control Requirements

- Vapors collected by vapor recovery systems
- Condensation of still gases
- Vapors combusted by flare, incinerator, reboiler, or thermal oxidizer
- Other controls achieve at least 95% reduction
What the Oil & Gas Industry is Doing Today

**Leak Monitoring Technology**

- Toxic Vapor Analyzer (TVA) - onsite, quantitative
- Infrared Imaging (IR) - remote, qualitative
- Aerial Imaging - DOT applications
“Things Being Done at California facilities”

- NSR, NSPS, BACT, MACT
- Vapor recovery systems
- Enhanced I&M programs
- Energy efficiency programs
- Natural Gas STAR Program
- California Climate Action Registry

“Things to Consider”

- Continue to work together.
- Recognize relationships between GHG & other regulated pollutants.
- Consider cost-effectiveness and technical feasibility.